

small air forces observer

**vol. 27 no. 4 (108)
April 2004**

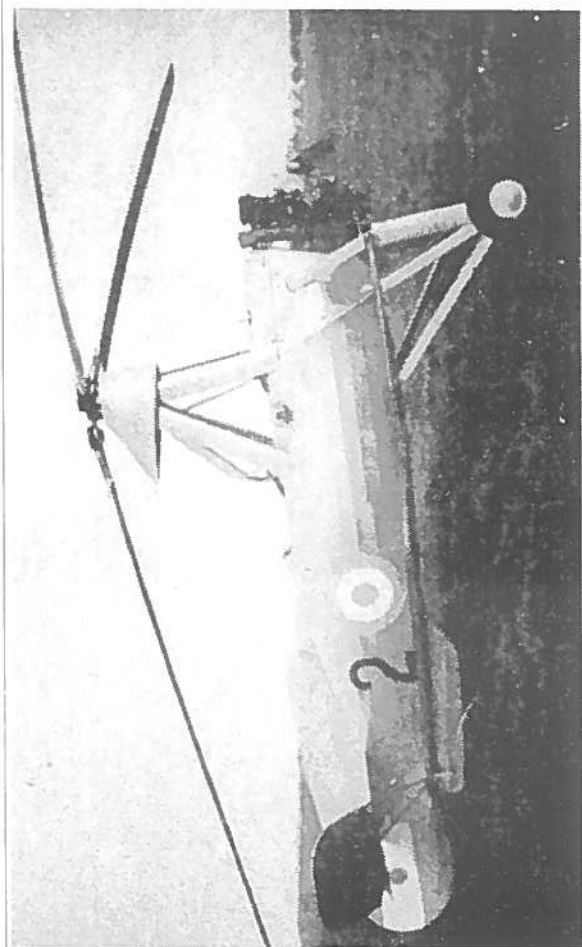
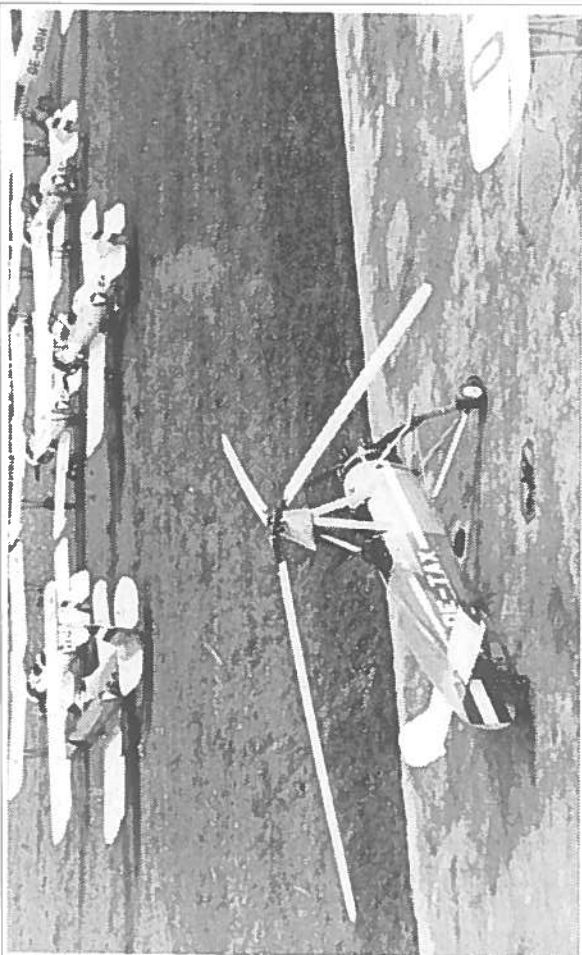
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**Aircraft of the Mexican Federal Police
Mexican Justice Department Aircraft
Cierva C.30A Around the World
Small Air Force Su-25 Frogfoot
Ecuador Air Force Cessna 337
Small Air Force L-29 Delfin
Mexican Air Force PT-19**

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April 2004



SMALL AIR FORCES OBSERVER

The Newsletter of the Small Air Forces Clearing House
E-Mail: saf@redshift.com

Contents

Abstracts	112
Aviation History Magazine	114
Enciclopedia de la Aviation Militar Espanola	115
Cierva C.30A (Ledet)	115
Fuerza Aerea Ecuatoriana Cessna 337 (Delgado)	122
Su-25 Frogfoot (Cance)	125
Aero L-29 Delfin (Waters)	127
Air Services of the Policia Federal Preventiva (Flores)	130
Mexican Justice Department Aircraft (Flores)	131
Mexican Air Force PT-19 (Vargas)	132
Books (Saab Safari; Dutch Lockheed L-12/212; LeO-30)	133
Magazines (Air Magazine; Flieger Revue Extra)	134
Kits (Sheje-2; AUT T-18B)	136
Decals (Mi-24; Tu-95; Strizhi MiG-29; F/RF-84G; NVA insignia)	137
Miscellaneous (Polish AF 1939 Color Chips)	139
Letters (Hagedorn)	139

SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material. Article published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

SUBSCRIPTION RATE: Subscription to the current volume of the SAFO is US \$16.00 for 4 issues in the USA and elsewhere via surface mail. For the cost of air mail delivery, contact the editorial office,

or send \$26.00 and any surplus will be credited to your account. Payment should be made in cash, by International Money Order, or by a check drawn on a bank with a subsidiary in the US made payable to "Jim Sanders". New subscriptions begin with the next issue published after payment is received; if you desire otherwise, please specify which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA.

BACK ISSUES: Either back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published at \$2.00 for original issues and \$3.25 for high-quality Xerox copies. Add postage for all orders. For a list of all issues and their content, send an e-mail request or two 1st class stamps (or 2 IRCs) to the editorial office.

MEMBERSHIP LIST: To promote cooperation between members, a list of SAFO member's names and addresses is available via e-mail, on computer disc (you provide the disc), or as hard copy for \$3.00 postage included.

SPONSORSHIP PROGRAM: To keep the SAFCH truly international, the SAFCH Sponsorship Program encourages members to sponsor friends in other countries. If you sponsor a friend in a country not currently represented on our membership list, the membership is half price for the first year. Prospective members in countries who cannot obtain US funds at a reasonable rate are encouraged to request sponsorship by the SAFCH. Money for these sponsorships is provided by the generous donations of SAFCH members.

TRANSLATION SERVICE: The following people have offered their services in translating articles for publication in SAFO: Inigo Artamendi (Spanish). Igor Gordelanov (Russian, Ukrainian, Byelorussian, Bulgarian, Polish, & Czech). Yoshihiro Aoyama (Japanese). If you need help translating material for a SAFO article, contact the editorial office and I'll give the address of an appropriate translator.

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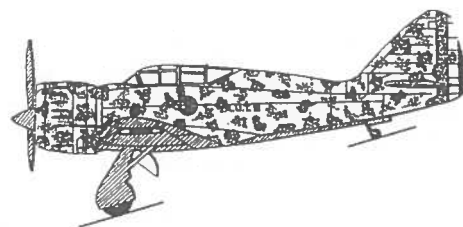
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LOST MEMBERS: Anyone knowing the whereabouts of the following 'lost' SAFCH members please inform the editorial office (last known address included): Alain La Pierre, Maracay, Venezuela; Jaroslaw Kusmirek, Lubartow, Poland; Jean Paul Castella, Marseille, France. Josef Gotz, Usti nad Labem, Czech Republic. Egils Pelecis, Riga, Latvia. Charles Berecz, Dayton, Ohio. Terry Elmore, Everett, Washington. Jean-Michel Guhl, Los Angeles, California. Masahiro Ohno, Japan. Mr. Scroggins, England. Przemyslaw Musialkowski, Warsaw, Poland; Michal Ovcacik, Prague, Czech Republic.

SAFCH WEB SITE: See SAFO photos in color and chat with members at www.bartoli.com/saf

COVER PHOTO: A Spanish Aeronautica Militar C.30A showing its ability to land vertically serves to introduce the story of small-air-forces autogiros that begins on page 115 of this issue of SAFO. This article is a translation of the chapter written by SAFCH-member Michel Ledet for LELA Presse's new book, "Les Autogires LeO C.30 & C.301". For photos of small-air-force-autogiros, see pages 109, 143, and 144. These 12 photos are but a small fraction of the almost 90 photos of small air force C.30A in this one chapter of the book.

AERONAUTICA UMBRA T.18 after modification dopo le modifiche



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SHELF CLEARING SALE: The Journal of IPMS-Germany from 1981 to the present: FREE! You pay the postage. Weight 35 lbs. Determine postage by going to USPS.com or contact the editorial office. Some issues are missing but I anticipate most of them will turn up as the cleanup of my office continues. Jim Sanders, saf@redshift.com or 27965

Berwick Dr., Carmel, CA 93923.

FOR SALE: Israeli Fighter Aces, Mersky; Shield of David; An Illustrated History of the Israeli Air Force, Rubenstein & Goldman; I am my Brothers Keeper: American Volunteers in Israel's War for Independence 1947-1949, Weiss & Weiss; Wing to

Wing: Air Combat in China 1943-45, Molesworth. All books are hardbound with dust jackets and in perfect condition. \$15 each, postage included in US. Add \$5 per book for postage outside the US. Send orders to: SAFCH, c/o Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923, USA. E-Mail: saf@redshift.com

AUSTRIA

OFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Pfenninggldf. 18/2/14, A-1160 Wien. Write for free sample.)
4/03 (28 pages) "Polnische Luftwaffe 1918 bis 1920: Oeffag C.1 und C.II" 10 pages including 11 photos, history of individual a/c, 2 scale 3-view drawings, and a color side-view drawing. "Lloyd G-Prototyp 40.08" 5 pages on a most unusual trimotor, twin-boom, triplane 'giant' including 4 photos and a scale 3-view drawing (a challenging scratch-build project for the intrepid modeler).

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$24.00 in US \$26.00 elsewhere).
28/4 (20 pages) "Modelling an Austin Airways DC-3" 3 pages including 2 photos and a color side-view drawing. "Building an RCAF Experimental and Proving Establishment Mustang Mk.IV" 7 pages including 10 photos (3 in color) of the model.

CZECH REPUBLIC

REVI: Dvoumesicnik a letadlech a leticich. REVI Publications, PO Box 143, Svojskova 1588, 708 00 Ostrava-Poruba, Czech Republic. Captions in English. E-mail: redakce@revi.cz. Web site: www.revi.cz.

#39 Srpen 2001 (56 pages) "Jindra Plechovka tahne do boje" 4 pages on Finnish Blenheims including 5 photos. "Heinkel He 111A a Martin 139WC na cinskem nebi" 6 pages on the Cantonese AF including 10 photos (one of an He 111A-0 with engines from a DC-3). Thirteen pages of reviews of kits and books. Color side-view drawings: RAF Defiant (3); RAF Blenheim (3); Czech MiG-29. Color photos: Aero L-159 (7 photos of details); "Warbirds in Detail" (11 photos of details of B-17 & B-24).

#40 Rijen 2001 (56 pages) "Letali jsme na 'turbinach'" 3 pages on Czech Me 262 including 3 photos. "Rote Rumpfbinde" Flik 60J, 14J a 9J" 4 pages on Austro-Hungarian WWI units including 8 photos. "Dogan" 2 pages on Bulgarian Avia B-534 including 4 photos. "AGON - Aviagruppa osobovo naznacenija" 3 pages on a Soviet unit including 3 photos (LVG C.V, Vickers FB-19, & Sopwith Triplane). "Jindra Plechovka tahne do boje" 7 pages on Finnish Blenheims including 9 photos (one of a Blenheim that crashed through the ice; a great diorama subject for an intrepid modeler) and 3 pages of outstanding 1/72-scale drawings of the Blenheim MkI and MkII. Eleven pages of reviews of kits and books. Color side-view drawings: Soviet Sopwith Triplane, Nieuport 24, & Sopwith Strutter; Nakajima Kate (3); Bulgarian Avia B-534 (3), & Finnish Blenheim (2 with plan view); Me 262 (2 Luftwaffe & 2 Czechoslovak); USN/USMC A-4 Skyhawk (3).

#41 Prosinec 2001 (56 pages) "Jindrova posledni valka" 2 pages on post-WWII Finnish Blenheims including 3 photos, 3 pages of outstanding 1/72-scale drawings of the MkIV, and a page of sketches of details. "Puvodni italske kamuflazni barvy na Finnish G.50" 2 pages including 3 photos (Finnish, Italian, & Spanish). "Pozorovaci letoun Letov S.50" 3 pages including 6 photos. "Siebel Si 202 Hummel" 3 pages including 8 photos (7 German & one Slovak) "MiGy-21 v Egypte a Syrii" 4 pages including 6 photos and a table of MiG 'victories'. "Rote Rumpfbinde" Flik 60J, 14J a 9J" 3 pages on A-H WWI unit including 4 photos. Fourteen pages of

reviews of kits and books. Color side-view drawings: Nakajima Ki-43 (2); Kawasaki Ki-108; Italian Fiat G.50 (2 with one plan view); A-H Phoenix D.II (6); MiG-21 (3 Egyptian and one Syrian); and Spitfire (one RAF & one USAAF). Color photos: A-10 Thunderbolt (6 photos of details).

#42 Duben 2002 (56 pages) "Szor atya' vitez szds. Gyozo Levay" 7 pages on Hungarian Ju 87 Stukas including 4 photos and a table of individual a/c histories. "Photo Album 39-45" one page with 5 photos of Czechoslovak a/c on display for German officials in March 1939 (all a/c carry swastikas on the wings as well as on the vertical fin). "Letouny polske vyroby ve sluzbach Luftwaffe" 4 pages including 10 photos of Polish a/c in Luftwaffe markings (P-37 Los, P.7a, PWS-26, Potez 25, RWD-13, & P.43). "Arado Ar 79" 2 pages including 6 photos. "Pozorovaci letoun Letov S.50" 6 pages including 10 photos of details. Twelve pages of reviews of kits and books. Color side-view drawings: Kawasaki Ki-61 (3); Nakajima Ki-34; Italian Fiat CR.42 (3) and MC.202 (a 3-view drawing); Letov S-50 (a side-view of Czechoslovak a/c in bare metal; side-and plan-views of a/c in Czechoslovak markings and camouflage, a plan view of the camouflaged a/c carrying swastikas on the wings, and side-view of the a/c as displayed at the 1939 Brussel's Air Show carrying German registration D-OPCO but with a tiny Czechoslovakian flag flying aft of the cockpit; Luftwaffe Ju 188 (2); and Me 108 (one Spanish, 2 Luftwaffe, & one Japanese (ex-Manchurian). Color photos: "Su-15 in Detail" 20 photos of a/c in Ukrainian AF markings.

ENGLAND

THE CATALINA NEWS (Val Thomas, The Catalina Society, Duxford Airfield, Cambs, CB2 3QR, England. One year £15. Web Site: www.catalina.org.uk. E-Mail: david_legg@lineone.net)

#55 January 2004 (24 pages) "Catalina FP282 and the Attack on U-168". This 5-page article (with 4 photos) is an excellent example of research that can be done by an enthusiast. Starting with a short note in his father's log book about an attack on a U-boat off Ceylon in March of 1943, the author contacted the surviving members of the crew and ultimately the captain of the U-boat and put together a riveting description of a 'minor' action that is more alive than most histories. We can use a lot more stories like this before it too late. "Aadastre Aerial Surveys and the Catalina" and "VH-AGB" A History" 3 pages and 3 photos on survey flying in Australia. "From Echuca to Moorabbin: A24-88 finds a New Home" 2 pages and 2 photos about a Catalina that was converted to a houseboat and has now gone to a museum for possible reconstruction. "Portugal to Australia by Catalina" 2 pages and 3 photos. "Cat Letter", "Feedback", "Review Column" and "World Catalina News", 4 pages and 4 photos.

MUSHROOM MODEL MAGAZINE (Roger Wallsgrove, 36 Ver Road, Redbourn, Herts AL3 7PE, UK. £3.95 each.. (North American subscription agent: Wise Owl Publications, 5150 Candlewood St., Suite #1, Lakewood, CA 90712-1900. \$32.00. E-mail: info@wiseowlmagazines.com.

8/1 (28 pages) Color photo: Polish Navy Kaman SH-2G Seasprite '3543'. "Spirit of Adventure!" one page including 3 photos of Sikorski S-38 'Carnauba'. "Martin and Osa Johnson's Flying Safari" 2 pages on the zebra- and giraffe-painted Sikorski S-38 and S-39 including 4 photos of the

real pair and 2 photos of models. "Flying the S-38 Replica" one page including 3 b&w and 4 color photos." and I m feeling GLAD All Over" 4 pages on building the 1/48-scale Roden Gloster Gladiator with review of the Eduard details set and the Max decals, includes 4 photos of the model and 9 of a museum example. "Jumo Junkie" 3 pages on building various kits of the Jumo engine for the Me 262, includes 14 color photos of the models. "Air Operations over Yugoslavia 1944-45" one page on a Vickers-Armstrong Wellington VIII including a side-view drawing and a photo of a model. "HP Victor" 3 pages on improving on the Revell 1/72-scale kit including 2 photos and a pages of sketches. Seven pages of kit and book reviews.

8/2 (28 pages) "A Modeller s Evolution" 3 p[ages on building the Academy 1/72-scale Bf 109E including 13 photos of the model. "Skorsky S-38 & S-39" (Part 2) one page on history including 2 photos. "Bulldogs with a Difference" 2 pages on converting the 1/72-scale Bulldog into a two-seater and the hypothetical Mk.V including 4 photos of the model and 5 photos of a museum Bulldog. "Red Radial Hurricane" one page on building a radial-engine Hurricane including 1/72-scale 3-view drawing. "Lloyd C.V, Special Hobby 1/48 Scale" on page including 2 color photos of the finished model. "Airspeed Oxford" 8 pages in-depth study with history, 16 color photos of a museum example, a page of sketches, and a 2-page multi-view 1/72-scale drawing. "Hawk 75M/N/O, Special Hobby, 1/72 Scale" 2 pages on building the kit including 2 photos of the model and 4 photos of the 75N in the Thai AF Museum (2 in color). Eight pages of reviews of kits, decals, and books.

SWEDISH AIRFORCE SIG (Harold Rowell, 80 Cambridge Ave., Marton, Middlesbrough, Cleveland, TS7 8EG, England. E-mail: pauline.rowell@ntlworld.com. Subscription £4.00 UK, £6.00 Europe, £9.00 USA.

#46 Fall 2003 (12 pages) "B2LA" one page on aircraft that did not proceed beyond the mockup stage. "The DC-3 which Disappeared" 3 pages on the Swedish reconnaissance DC-3 that was shot down by Soviet MiGs including 2 photos. "Spitfire PR XIX (S31)" one-page review of 1/72-scale kit by Heritage Aviation.

#47 Winter 2004 (9 pages) "In the Box Review: Tummelisa O" 2 page-view of the 1/72-scale resin kit by Kora including side-view drawings of two aircraft, front and split plan-view drawings from the instruction sheet. ('Tummelisa' is the name of Tom Thumb's female counterpart.) Also, a table listing the serial numbers and 'fate' of individual aircraft. The remainder of this issue lists Swedish decals and kits available from the SIG.

FINLAND

FINNISH AIR FORCE SIG, c/o Nils R. Treichel, Grosser Platz 4, 27432 Bremervoerde, Germany. Entirely in English.

No. 21 (10 pages) "Finns Abroad" 3 pages including drawings of Latvian IVL A.22, Eritrean and Mexican Navy Valmet Redigo. "A Delayed Floatplane" 2 pages on the Finnish Ripons including a scale 3-view drawing. "Seven out of Nine" one-page review of the Omega Models 1/72-scale kit of the Koolhoven FK-51.

SUOMEN ILMALUHIHISTORIALLINEN LEHTI (InScale 72, Jakomaentie 8bC 300, FIN-00770 Helsinki. Subscription: Europe \$25, elsewhere \$30; Payment by International Postal Order or in cash;

no cheques accepted because of high redemption rates). Each issue includes a 2-page English summary.

4/2003 (24 pages) "Gloster (VL G,28) Gamecock II" 4 pages including 3 photos and a full-page 3-view scale drawing. "Flying Squadron 32 (LeLv 32) in Action 1940-42" 4 pages including 2 photos (Curtiss H75) and 'victory' list. "Night Fighter Operations in Finland 1943-45 (Part 5)" 2 pages including one photo (a Brewster instrument panel). "MT-201" one page including one photo. "Yrjo Nissinen" 4 pages including 4 photos (Cessna Airmaster and Piper Cub). "Planning, Design, and Building Malmi Airfield" 6 pages including 10 photos (KZ-VII, Piper J4A Cub Coupe, Valmet Vihuri II, Taylorcraft Plus D, Anson I, Klemm-KI 25D, Vickers Viking, Bf 109G-2, and Bucker Bu 131; the latter 5 are in color).

IPMS-MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs). Now with captions in English.

#151 5/2003 (16 pages) "Midnight Hawks" The entire issue is devoted to Finnish BAe Hawks and includes 17 color photos, a color 4-view drawing, port- and starboard-side scale drawings, and an article on building the Airfix 1/48-scale BAe Hawk T.1/Mk51.

FRANCE

AIR MAGAZINE, TMA, 75 rue Claude Decaen, 75012 Paris, France. Six issues a year. 35 euros in France, 41 euros in Europe, and 50 euros for the rest of the world. Payment by Visa, Eurocard, Mastercard. E-mail: airmagazine@wanadoo.fr.

#17 Janvier 2004 (64 pages) "Le Chaika et l'attaque au sol: Les I-153 dans le Caucase et au Kouban en 1942-43" 8 pages including 6 photos and a color 3-view drawing. "Le terrain de Dreux en Juin 1940" 5 pages the German attack on the airfield of GC 1/145 including 7 photos and 4 color side-view drawings (Polish Caudron 714). "Un as galicien: Leopold Anslinger" 7 pages on WWI ace 10 photos, 5 showing his Fokker Eindecker alongside a Russian Voisin he forced down (Ed: A great diorama subject.), and 8 color side-view drawings of his Eindeckers (including one in Turkish markings). "Saab 17" 21 pages including 22 photos (5 of Ethiopian a/c), 12 drawings from Maintenance Manual, one color 3-view drawing of Swedish a/c, one color 3-view drawing of Ethiopian a/c, 10 color side-view drawings (7 Swedish, one Finnish, one Austrian, & one Danish), a 2-page 1/72-scale 5-view drawing of the Saab 17B with cross-sections and drawings on differences in the 17A & C, a 2-page 1/72-scale 4-view drawing of the twin-floatplane 17BS (Ed: A great conversion subject.), plus tables of characteristics of each version, a production list, and list of a/c lost in accidents. "Les Potez 63: La Campagne de France" 13 pages including 16 photos, 10 color side-view drawings, and a 1/72-scale 3-view drawing of the Potez 637 the version with the gondola under the fuselage (Ed: An interesting conversion for the modeler.) Five pages on kit and book reviews including Kora's 1/72 resin Heinkel He 4 in Latvian markings, HR Model's 1/72-scale resin Avia B-534/II & Bk-534, and a book on the Broussard MH 1521 described as "Ce superbe livre de 190 pages". Another fantastic issue from AirMag.

AVIONS: Toute l'Aeronautique et son Histoire (Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. 420F for 12 issues).

#129 Decembre 2003 (62 pages) "Les B-25 Mitchell

sovietiques" 10 pages including 14 photos, 4 color side-view drawings, a color side/bottom-view drawing, and a color side/top-view drawing. "Coulez le Tirpitz" 22 pages including 40 photos, 4 color side-view drawings [Wildcat, Hellcat, Barracuda(2)], and 4 color side-view drawings of the Tirpitz. "Les Boston sovietiques face a la chasse roumaine" 6 pages including 17 photos, a color side-view drawing (Romanian Bf 109G), and a table of Bostons shot down by Romanian fighters. "La Fliegerabteilung 300 au Proche-Orient (1916-1919)" 9 pages including 25 photos (Rumpler C1).

#130 Janvier 2004 (62 pages) "Cahier special: Le Messerschmitt 262" 14 pages including 20 photos, 6 side-view color drawings (2 to a page), 2 top-view color drawings (one to a page), 2 side-view color drawings (on double pull-out page), and color cover painting. "Un quatuor d'as: Les freres Challe" 14 pages on three brothers who became aces including 36 photos and 'victory' table. "Coulez le Tirpitz!" 11 pages including 15 photos, 3 maps, 4 color side-view drawings (Avro Lancasters). "Curtiss-Wright 22 Falcon" 9 pages including 19 photos (Turkey, Netherlands East Indies). "Les B-25 Mitchell sovietiques" 10 pages including 18 photos (one photo shows a B-25 with a turbojet mounted above the fuselage for a test program) and 4 color side-view drawings.

#131 Fevrier 2004 (62 pages) "Concord: La page est tournée" 10 pages including 32 photos and production list. "Falcon: Le Curtiss-Wright 22" 13 pages including 24 photos and 8 color side-view drawings [US (3), Dutch (2), Japanese, Turkey, & Uruguay]. "Cahier special: Le Messerschmitt 262" 11 pages including 21 photos, 7 color side-view drawings (2 to a page), and a color 2-view drawing (top- and port-side views) of a Me 262 in French markings. "TG 30: Vers les poches de l'Atlantique" 10 pages including 18 photos (He 11). "Echec aux Simba!" (Part 1) 10 pages including 17 small photos (T-28 Trojans and other aircraft of the Congolese Air Force). "Shogo Takeuchi et le Ki-61-1 Hien" 4 pages on modeling the 1/48-scale Hasegawa kit including 7 photos of the completed model and 4 photos of the ace's aircraft.

GERMANY

MITTEILUNGEN (IPMS Germany, Bergengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia).

4/2003 (40 pages) Nothing on small air force interest.

Flieger Revue, Verlag Fliegerrevue, Oranien-damm 48, D-13489 Berlin, Germany. 12 issues per year; 4.8 euro single issue; US\$4.50. E-Mail: extra@fliegerrevue.de. Web Site: www.fliegerrevue.de.

1/2004 (72 pages) "Osprey breitet die Flügel aus" 5 pages including 10 photos of the V-22. "Kapustin Jar: Russlands geheimnis Kosmodrom" 8 pages including 15 photos and a map. "Mit zivilen Kennzeichen im Einstaz" 4 pages including 7 photos and 5 color side-view drawings of colorful German target-towing a/c (Spitfire LF Mk.IX, Sea Fury TT Mk29, AT-6A Texan, Pilatus PC-9B, & Douglas RB-26C). "U-Bootjäger Sea hawk" one page on modeling the 1/48-scale Italeri kit including 9 photos. "Savoia Marchetti SM.79 Sparviero in 1:72" one page on modeling the Italeri kit including 12 photos.

ITALY

JP-4 Mensile di Aeronautica (JP-4, CP 1550, 50100

Firenze; L 27.000 Europe, L 30.000 elsewhere).

Ottobre 2003 (100 pages) Color photos: South Korean Sikorski S-70. "L'esperienza afgana" 6 pages including 10 photos of Italian Harriers in Afghanistan. "Il Balilla e tornato" 2 pages including 8 photos of restored a/c.

Novembre 2003 (100 pages) Color photos: Polish AF PZL-130 Orlik TC-1. "Czech International Air Fest" 2 pages including 6 photos (Canadian CF-18, Hungarian Mi-24, Czech Mi-35, & Serbian Super Galeb). "Bielik, l'aguiotto polacco" 2 pages including 6 photos of the EM-10 Bielik. "Forca Aeronaval da Marinha do Brasil" 4 pages including 8 photos (Skyhawk, Lynx, Esquilo, Super Puma, & Sea King).

Dicembre 2003 (100 pages) Color photos: Greek Embraer EMB 145 AEW&C, Spanish Eurofighter '11-70', and Hong Kong EC 155 Dauphin. "Antica Babilonia" Italian a/c in Iraq including 15 photos. "Il museo di Vigna di Valle" 4 pages including 10 photos of museum a/c (Lohner L127, Hanriot HD-1, Ansaldo AC.2, & Fiat G.59. "20 anni di GAVS" 4 pages on restoration work including 8 photos (Fiat CR.32, NA T-6, Spitfire IX, & Nardi FN.305).

Gennaio 2004 (100 pages) Color photos: Albanian AB.206-1 '519', Polish PZL-130TC-II Orlik 1047, and Dutch P-3C '301'. "Korean Air Show" one page including 8 photos (KAI TK-1 and South Korean aerobatic team's Cessna T-37). "EMS 2003" 4 pages including 9 photos (French Mirage 2000, Fennec, C-130H, Tucano, & Jaguar). "L'Italia alla 'Red Flag 2003'" 2 pages including 6 photos (Italian AMX). "Axaalp 2003" 3 pages including 8 photos (Swiss F-5E, Mirage IIIRS, F/A-18C, & Super Puma).

NETHERLANDS

MODELBOUW IN PLASTIC (IPMS-Nederland, c/o Rene Euhart, Bernadottestraat 133, NL-2131 SP Hoofddorp; erhart@quicknet.nl).

4/2003 (32 pages) "Republic RF-84F Thunderflash" 10 pages including 12 photos and a 4 view scale drawing; all of Dutch RF-84G. "1934 Ford Model 40: Edsel's Speedster" 5 pages including 9 photos. (Not an a/c, but a jazzy-looking car.) "De F7U-1 Cutlass" 4 pages on building the Lindberg kit including 7 photos of the model in various stage of construction.

SPAIN

REVISTA ESPANOLA DE HISTORIA MILITAR (Carlos Fresno Crespo, Alcaniz Fresno's S.A., C/Cromo 18-20, Poligono Industrial San Cristobal, 47012 Valladolid) 800 Pts.

#41 Noviembre 2003 (92 pages) "Maria Bernaldo de Quiros: La Primera Mujer Piloto de Aviacion en Espana" 3 pages including 4 photos about first female pilot in Spain. "La Batalla del Ebro (1ª Parte)" 12 pages including 2 maps, 8 photos, color painting, and order of battle (all ground activity, no aircraft). "Breve Historia del Motor de Embolo de Aviacion" history of aircraft piston engines including one color photos (Spanish T-6), 16 b&w photos of motors, and 2 color side-view drawings (RAF Hurricane & Luftwaffe Bf 109). Poster inserts: M-113A-1 Portamorteros de 120 mm; Landing Vehicle tracked Personnel LVTP-7; Vehiculo M-548-6 con Systems Siembramas SEM-11; and Carro de Combate 'Mercier'. Inset: "Los Medios Blindado de Ruedas en Espana, Un siglo de Historia", 'La Industria y las Ultimas Incorporaciones (1976-2004)' pages 113-128, including 32 photos and 9 color drawings (mostly Spanish vehicles in service with KFOR).

#42 Diciembre 2003 (92 pages) "Antecedentes y origen de la Aviacion Militar Espanola" 8 pages

including 7 photos. "Cien anos de Aviacion Militar" 20 pages including 38 photos and 28 color side-view drawings [Avro 504, DH.4, Breguet XIV, Bristol F2B (red/white/red roundels), Dornier Wal (Spain), Breguet XIX (Poland), Douglas DC-2 (Spain), Boeing B-17, Spitfire, Cierva C.30, Bf 109, He 111, Ju 88 (Finland), FW 190, F4U Corsair, Boeing B-29, NA T-6, Douglas DC-3, Consolidated B-24, Gloster Meteor, Mig-15, NA F-86 (Taiwan), F-104 Starfighter (Germany), F-4 Phantom II, Mirage III, Harrier Thailand), and Eurofighter (Spain)]. "El Lockheed F-80 Shooting Star en Corea" 5 pages including 6 photos, 4 color side-view drawings, and table listing F-80 'victories' (5 Il-10, 9 Yak-9, & 3 MiG-15). "El Douglas B-26 Invader en Corea" 4 pages including 4 photos and 4 color side-view drawings. Poster inserts: Blindado Naval-Somua 1; Blindado Pamplona N° 3; Blindado BA-6; and Blindado Chevrolet Mod.1937 con torre de T-26B. Insert "Los Medios Blindado de Ruedas en Espana, Un siglo de Historia", 'La industria Espanola y las ultimas incorporaciones (1976-2004)' pages 129-144, including 24 photos and 7 color side-view drawings and two color multi-

view drawings. #43/44 (92 pages) "La Batalla del Ebro (3ª Parte)" 15 pages including 21 photos and 4 maps (ground activity only). "Alcunas consideraciones sobre el accidente en el que murio el general Sanjurjo" 5 pages including color side-view drawing of DH.80A Puss Moth 'EC-VAA'. "Submarinos americanos en dos oceanos" 18 pages including 21 photos, a color drawing, and table of sinkings. "La Guerra de Corea (3ª parte)" 23 pages including 17 photos, 3 maps, 6 color drawings of US and South Korean armored vehicles, and 20 color side-view drawings of aircraft (North Korean MiG-15 (3), Il-10, Yak-9U, La-9, La-11; Chinese MiG-15; USAF Lockheed F-94A Starfire, Boeing B-29A Superfortress, Boeing SB-17G, AT-6G (3); USMC F4U-5, Consolidated-Vultee OY-2; USN Douglas F3D-2 Skyknight, AT-6G; RAAF Meteor Mk.8; RN Sea Fury FB). Poster inserts: Carro de combate M-48 A-1, Pieza de artilleria autopropulsada M-109, Camion oruga blindado (COB) 'Carrier' M-4 A1 'Portamorteros', and Canon contracarro de 37 mm. 'Mac Lean'. Insert: 'La Industria y las Ultimas Incorporaciones (1976-2004)' pages 145-160, in-

cluding 23 photos and 6 color drawings [VEC, VEC M1 (KFOR), BMU-2, & Panhard VLB].

USA

WWI AERO (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$35.00 USA or \$40.00 overseas). #183 Feb 2004 (146 pages) "Understanding Gustave Whitehead's Aerial Adventures" 18 pages including 13 photos. "The Hydroplane School" 6 pages on the short-lived Wright School including 9 photos. "The Gallaudet Story: Part 6 The Military Tractors (Model C-1 and C-2)" 19 pages including 15 photos and a 4-page 1/40-scale 3-view drawing. "Drawings" 8 pages including three 3-view scale drawings (Morane-Saulnier Eindecker, Wasser-Doppeldecker der Albatroswerke, & Aviatik-Pfeil Rumpfdoppeldecker Militartype 1914). "The Intrepid Gustav Hamel" 4 pages including 12 photos. "Museums/Organizations" 17 pages including 47 photos. "Models" 10 pages including 28 photos. "Publications" 15 pages. "Letters" 3 pages.

Aviation History Magazine Year 2000

Primedia Publications, 741 Miller Dr. SE, Suite D-2, Leesburg, VA. Bimonthly; \$4.99 each. Websites: www.TheHistoryNet.com and www.aviation-history.com. For back issues call (800) 358-6327. Magazine issues and individual articles are available on microfilm/microfiche from University Microfilms Inc., 300 North Zeeb Rd, Ann Arbor, MI 48106.

Jan 2000 (Vol 10/#3) "The Missile With a Man in It", article on Lockheed F-104 Starfighter by Robert Guttman (pp. 46-54, 84). General info on the F-104A/C, the F-104G in West German service, CF-104 in Canadian service, and F-104S in Italian and Turkish service. Contains errors relating to AIM-7 and AIM-9 weapons, but 3 pages of info on Pakistani AF combat operations (vs IAF) is excellent detailed information. No photos of note. March 2000 (Vol 10/#4) "Aerial Oddities", article on North American NA-50/P-64 and the Australian derivative NA-33/CA-3 "Wirraway"/CA-12 "Boomerang" by Robert Guttman (pp. 10, 12, 60, 61). Mentions Peru obtained seven NA-50s in 1939 and that these were used in a brief border conflict with Ecuador two years later. Excellent detail of the development and combat history of the CA-12 "Boomerang" in RAAF service (mostly No.84 Sqn). Photo of USAAC P-64. "Reviews" section, Jon Guttman reviews

Rumanian Air Force: The Prime Decade, 1938-1947, by Denes Bernad, Squadron/Signal Publications (pp. 54, 56). If you read this review, you will buy this book. I did!

May 2000 (Vol 10/#5) "Military Aviation's Revolutionary Beginnings" by Ron Gilliam (pp. 52-56, 62) An excellent article on the use of aircraft during the Mexican Revolution of 1912-1914, and the beginnings of the FAM. Also superb are the sidebars "World's First Aerial Dogfight?" (p.54) and "87 Years Ago This Month" (p.82). "Enduring Heritage" section by Terry Gwynn-Jones (pp.70, 72, 74). Interesting story of the recovery and restoration of a USAAF Douglas A-20G Havoc and an RAAF Douglas Boston III (A-20C) Jessica of No.22 Sqn, previously lost in the jungles of New Guinea. Excellent side-view color photo of Jessica (A28-8) 'DU*J'. "Hawk with Shark's Teeth: The Curtiss P-40" by Robert Guttman (pp. 42-50). Good review of the history of Curtiss WW2 stalwart, includes information on use by British Commonwealth nation's AFs (primary anecdote from RAAF) as well as the usual coverage of USAAF, AVG, and RAF use. One photo of RAAF interest (No.80 Sqn).

July 2000 (Vol 10/#6) Nothing of Sm(all)AF (SmAF) interest

September 2000 (Vol 11/#1) "Letters" (pp.8, 62)

Additional info on "Peruvian NA-50s" from Manuel Antonio Cuba and "Bleriot Blooper" correction for May 00 article on aviation in the Mexican Revolution by Sanford Solarz. "The Deadliest Puma" by Jon Guttman (pp.26-32). Exceptionally detailed biography of Hungary's ace-of-aces, Sgt Dezső Szentgyörgyi. "Historic Modeling" section by Dick Smith (p.72) details how to model Szentgyörgyi's Bf 109G-14. Good selection of photos and artwork. "Forgotten Air War Over Indochina" by Terry Gwynn-Jones (pp.50-56). Outstanding description of air combat operations between Thailand's air force and Armee de l'Air's colonial units in French Indochina (Cambodia, Laos, and Vietnam) in winter 1940-41. Excellent review of the history of RTAF from its inception until this conflict. Nice sidebar on "Thailand's Role in World War II". "People & Planes" section by Charles Reid (pp.12, 14, 63, 64). Nice combat biography of the RCAF's first ace, Willie McKnight, with the all-Canadian RAF 242 Sqn

November 2000 (Vol 11/#2) While not necessarily of SmAF interest, Ronald V. Regan's "Flying with the Tigers" is an exceptional telling of the inception, deployment, and combat history of the AVG. Compiled by Doug Dildy (SAFCH #84) 3813 Madrid Dr. NE, Albuquerque, NM 87111, USA.

Enciclopedia de la Aviacion Militar Espanola

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#75 (pages 1185-1200) "Bleriot-SPAD 51 C.1" a 2-page continuation including one photo and a scale 3-view drawing. "Bleriot-SPAD S.56/6" one page. "Bleriot-SPAD 71" one page including one photo. "Bleriot-SPAD S.91/6 C1" 4 pages including 2 photos, a color side-view drawing, and a scale 3-view drawing. "Bleriot-SPAD S.510 C1" 4 pages

including one photo and a scale 3-view drawing. "Bloch (SNCASO) MB 174 A3" 2 pages including a color side-view drawing (interned French a/c). "Bloch (SNCASO) MB 175 B3" 2 pages including a color side-view drawing (interned Vichy a/c). "Bloch MB 200 Bn4" one page including one photo. Poster inserts: Loire 46C1: Avion n° de la Escuadrilla "Espana" del Aviacion Militar Republicana; and Bell UH-1H-BF Helicoptero 752-10 (HE.10B-37) del 752 Escuadron de la Escuela de Helicopteros.

#76 (pages 1201-1216) "Bloch 200 Bn4" a 3-page continuation including a scale 3-view drawing. "Bloch MB 210 Bn5" 13 pages including 10 photos and a color side-view drawing. Poster inserts: Potez 540: Avion 'F' del Grupo Potez de la Aviacion Militar Republicana and Bell UH-1H-BF: Helicoptero ET-303 de la UHEL II de las FAMET.

The Cierva C.30A with the Small Air Forces

Michel Ledet

[Ed: Les Autogires LeO C.30 & C.301 from Lela Presse is, as its title declares, devoted to the story of the French derivatives of the Cierva C.30 autogiro. This book is reviewed in the "books" section of this issue of SAFO. However, this book on French autogyros contains an extensive chapter on the use of the Cierva C.30 by other countries. This chapter is written by Michel Ledet, editor of Lela Presse and a good friend of the SAFCH. Michel has graciously given his permission to publish a translation of this chapter along with selected photographs in SAFO. The translation is by my sister, Sandra Schachter, to whom I am most indebted. Readers are also referred to articles on small-air-force C.30 published in SAFO: Lithuania SAFO #12; Spain SAFO #17 & #20; Argentina SAFO #17.]

GERMANY

We do not know much about the use of C.30 in this country. Two were acquired directly from Avro in November 1934 and tested at Rechlin by the RLM (German Air Ministry); they received the registrations D-EKOM and D-EKOP. The following July, D-EKOP crashed at Alsfeld because of pilot error. Focke Wulf acquired the manufacturing license for the C.30. The German builder envisaged the construction of 40 aircraft, but it seems that only 30 were assembled at Bremen beginning in 1935. We know little about their use. One of them, D-INCR was tested at Travemünde and crashed in 1937. Another was abandoned in France or possibly confiscated. This had c/n 1791 and was later registered as F-BDAA. It ended its career in the sixties at the Saint-Cyr School after having served at the SNCASE until 1950. The C.30 was the origin of the Fw 61.

ARGENTINA

Two Avro C.30A were bought by the Argentine Army (n/c 1031 and 1032) in September 1937, with the intention of acquiring the manufacturing license for the *Fabrica Militar de Aviones at Cordoba*. These two machines were taken up by the army on November 10, 1938. Registered as '1' and '2'; they serviced with the *Commando de Aviacion del Ejercito* and were based at El Palomar (near Buenos Aires). These autogiros took part in maneuvers with the artillery, but it seems that these trials were hardly conclusive, because the C.30 was never built in Argentina. Little used, the two autogiros were withdrawn from service in 1940 and 1941.

Several months after its arrival, number '1' had an accident which put it out of service for a long time. Afterwards, it was sold to a civilian and registered LV-FBL. It is now in a museum in Buenos Aires, having regained its military colors.

It seems that a third C.30, civilian this time, came to Argentina in 1937. It made its first flight on June 31 of that year. It was first registered as R-340 before becoming LV-CEA. It was used near El Boson, in the Andean Corridor (Chubut Province) and it flew between El Boson and Buenos Aires. Unfortunately, we do not know its construction number.

AUSTRIA

This is one of the planes whose career is well known. During the second half of 1934, the Austrian government decided to acquire an autogiro with the intention of equipping the future air arm of the land army. It was then decided to buy one plane, with a second to be obtained in 1937. At the time, Austria did not yet have the right to operate any military planes (Treaty of St-Germain) and the aircraft was officially bought on the part of the Austrian civil aviation company, *Oesterreichische Luftverkehrs A.G.* However, this ban had been ignored since 1927 and the only precaution taken by the authorities was the use of civil registration on all aircraft. The autogiro was bought in 1935 and, in May, Lieutenant Franz Behrendt, of *Heeresluftschutzabteilung 2*, went to Hanworth in Great Britain to learn how to pilot an autogiro and to bring back the plane bought by his country. Two weeks of apprenticeship were necessary. He was later joined by the Adjutant Bittmann; and the two men received instructions to fly the plane to Vienna. At 11:20 AM on June 16 1935, the autogiro, c/n 815 OE-TAX, left Hanworth. It arrived at Vienna-Aspern on the 22nd, where it landed at 7:01 PM after a flight across Great Britain, France and Switzerland; its last stop being Linz in Austria.

Several days after its arrival, the autogiro received the national red-white-red colors on the rudder with the number '63' on the white portion. It was put into service with *Aufklarungsstaffel 2* at Aspern.

Although the plane flew a great deal, few events marked its career. It sustained thirty percent damage on September 6 1936, at Neulengbach in southern Austria, and was repaired at the military aviation workshops. In spite of its demonstrated performance, the option to buy the second C.30A was not taken up. Austria preferred the Fi 156 or the Henschel Hs 126 for re-equipping its observation squadrons.

On October 13 1937, OE-TAX was completely destroyed. The plane took off from Aspern at 3:56 PM, piloted by Johann Brittmann, accompanied by soldier Ludwig Lanz. A little later, the autogiro began its ascent in an abnormal manner before dropping off to the right and crashing to the ground. Several moments later, the machine caught fire. The observer, Lanz, managed to extract the pilot from the wreckage.

After having flown 71 hours and 18 minutes, OE-TAX was finally condemned and sold to a junkyard on February 15 1938, putting an end to the experiment of the autogiro in Austria.

BELGIUM

Following a demonstration in Belgium by Cierva himself, the Belgian Air Force decided, on a trial basis, to acquire an Avro C.30A. The long-term objective was to give each squadron a similar plane. The condition of use was that each unit had to furnish a qualified pilot for this machine which required very special piloting. Only three pilots were finally qualified for the autogiro: Captain Dankers (no 1), Firman Capon (no 2, serving with the 5th squadron), and Adjutant

Georges Dizy (no. 3).

Only one autogiro (c/n 818) arrived in Belgium in 1936, but it was not satisfactory. It was Firman Capon who piloted it the most often. Without an exact use, the autogiro was often confined to the hangar. It was finally destroyed at Bierset, still in its hangar, during the German aerial attack of May 10 1940.

A second C.30A seems to have been exported to Belgium; it was the c/n 717, ex-G-ACWO (ex VI187 of the RAF) which was acquired for its spare parts in 1949. However, we know nothing more about this aircraft.

BRAZIL

Only one Avro C.30A was exported to Brazil; it was c/n 738. It was registered PP-TAF (the letter T of the registration signifying tourism) in Brazil. We know nothing of its fate.

CHINA

Two Avro C.30A were exported to China via the Far Eastern Aircraft Company Ltd. The first one, c/n 734, arrived in Hong Kong and was registered VT-HCT on December 27, 1934 in preparation for a demonstration tour; but it was damaged almost immediately. It was later repaired and sent to the Far Eastern Flying Training School.

A second plane, c/n 808, arrived in May 1935. It was demonstrated in the hands of pilot A.D. Bennett at Longhue (Shanghai) on June 21 in front of numerous spectators. Then it was taken to Nankin, Hankeou, and Nanchang, before being acquired by the Central Chinese government. Nothing is known of its fate.

DENMARK

In 1935, the Swedish pilot Rolf von Bahr demonstrated an autogiro at Kastrup in the presence of Col. Forslev (Aviation Commander of the Danish Army) and other high-ranking officers. They were all impressed by the qualities of the machine which could, in their view, advantageously replace observation balloons.

Thus, the first autogiro was ordered from Avro in 1935. In January 1936, Lieut. Poul Saebye was sent to Great Britain to be trained as an autogiro pilot, followed by the Commander of the Balloon Park, Capt. T.A. Poulsen. Saebye became the first Danish autogiro pilot on February 23, 1936.

The first autogiro (c/n 750) was delivered to Denmark in cases on March 13, 1936. After it had been assembled at the Army Repair Shops, the plane was designated 1M (forste molleplan) and received Danish roundels and the registration M-1. The first flight was made on March 28 in the hands of Saebye. From May 21-23, M-1 took part in an international contest, among other army and navy airplanes; it bore the number '43'. Taking off from Kastrup, it arrived at the Stockholm aerodrome (Bromma) in four stops. The following June 5, it was damaged on landing by Capt. Poulsen after an artillery exercise. It was repaired on November 20. The plane underwent two further accidents: On May 24 1937 (pilot Lieut. Saebye) and then more seriously on August 16. M-1 was transferred to the army repair shops to be repaired and slightly modified. This lasted three months and trials took place on December 18. Unfortunately, on February 16 1938, sub-lieutenant H.P. Sorensen damaged M-1, again on landing at Vaerloose. After a long time in repair, the plane was attached

to the 5th squadron (reconnaissance), based at Vaerloose on October 31 1938. It was again damaged on March 27 1939 and again repaired. Its activity ended with the German invasion of April 9 1940, the plane being dismantled and stored, like all the Danish airplanes. It was then sold to Rolf von Bahr on October 24 1940 (see more in the section on Sweden), after having been flown 185 hours and 25 minutes in Denmark.

During this time, a second plane was bought from Avro and registered M-2. It was c/n 885 and it arrived in Denmark by air in the hands of Lieut. Poul Saebye. It was damaged when a gust of wind overturned it on September 24 1937. The damage was serious and repairs lasted until May 1938. On May 31 1938, it was tested by Lieut. Saebye. It was damaged another time on August 12 and then transferred, after repair, to the 5th squadron, like M-1. Another accident occurred on January 7, 1939, sending the M-2 once again to the repair shops. It no longer flew and was stored away, like the M-1, before being sold to von Bahr.

SPAIN

No one is a prophet in his own country and this cannot be truer than for Cierva. and his autogiros, which in the end had very little success in Spain. Only five planes were exported to the country, four military and one civilian.

It was the *Aeronautica Naval* which first acquired two Avro C.30As. In February 1934, Juan de la Cierva carried out a series of demonstrations in Spain with C.30P G-ACIO. On the 27th, he participated in an air fair at San Javier air base and made several flights with navy pilots. The pilots, as well as the celebrities present, showed their satisfaction but asked de la Cierva to make a trial flight from the old aircraft carrier *Dedalo*. This was done on March 7 1934, when de la Cierva took off from a little platform (16 by 54 meters) and then deck-landed his C.30P.

Following this success, the Spanish government was ready to order six autogiros, two of them for the *Aeronautica Naval*, two for the *Aviacion Militar*, and two for the police. The order of two Avro C.30As for the Spanish Navy was confirmed on March 22, 1934. On the following June 16, pilots of the *Aeronautica Naval* were sent for training at the Hanworth school: *Capitaine de Corvette* (CC) Manuel de Florez y Martinez de Victoria, *Lieutenants de Vaisseau* (LV) Eladio Ceano-Vivas y Abarca, Jose Luis de la Guardia y Pascuala de Pobil, Federico Salas Pinto, Emilio Lecuona y Garcia-Puelles, and Antonio Guitian y Carlos-Roca. The training lasted about three weeks. CC Florez, LV de la Guardia, and Guitian then went to the Avro factory at Manchester along with the mechanic Juan Flexas Guerrat. Once checked over and tested, the two planes were registered EA-SCA (c/n 756) and EA-SCB (c/n 757). The flight to Spain began on September 8 1934 and took five days. The two autogiros arrived on September 13 at Getafe where they were temporarily put under the command of the Naval Aviation.

The miner revolt in Asturia in October 1934 soon presented an occasion to try the two planes. The first plane in action was the EA-SCB, piloted by LV Guitian. It took off from Getafe on October 8 1934 in the direction of Leon, stopping at Valladolid to refuel, before being put at the disposition of *Escuadra 1* of the *Aviacion Militar*. On the 10th, it received an order to transport Lieut-Col. Yague (who com-

manded the troops coming from Africa) to Gijón; Guitián used the beach at Gijón for an airfield, since fields nearby were not suitable. Guitián then made numerous reconnaissance missions for the troops of Gen. López Ochoa, who was en route to liberate the garrison besieged at Oviedo. Guitián also had to find airfields suitable for the Breguet 19 of the *Grupo de Reconocimiento 21*, based at León. On the 15th, the plane flew over the mining areas of La Felguera, Pola de Laviana, Riosesco, and Sama. It was frequently shot at by the strikers and one bullet just missed the pilot.

Two days before, the Ministry of War had brought out the second autogiro EA-SCA with its pilot, LV de la Guardia. It went to León with mechanic Flexas, taking off from Getafe on the 14th. On the 20th, LV la Guardia transported Captain José Antonio del Val Núñez, *chef d'état-major* of the air force, to Oviedo and Gijón. Around Pajares, the autogiro lost altitude because of the weather and finally had to land six kilometers from La Robla. With help of some farmers, the plane was unloaded. With the Captain left behind, the pilot took off for León. There, the plane was inspected and it was discovered that a rotor blade had been damaged on its leading edge. This was rapidly repaired. The two autogiros started off for Asturias on October 26 1934, piloted by LV Guardia and Guitián along with Lieut-Col Camacho. They landed on the beach of Gijón to give a demonstration for Gen. Rogelio Caridad Pita (who was to be shot for his loyalty to the Republic in the first days of the civil war). They then flew toward Oviedo, but their mission was cancelled and they went back to Getafe.

On January 27 1935, during a parade in honor of the Army at Barcelona, the two autogiros participated in the festival. EA-SCA, piloted by LV Guitián, landed on the Plaza de Cataluña, but when taking off the autogiro caught on a cable which made it overturn near a truck of the Assault Guards, wounding one of them seriously. The festival stopped immediately and the plane was taken to the repair shops of the *Aeronautica Naval* to be repaired. A new fuselage and rotor blades were brought from England. This autogiro was available in January 1936!

During this time, the other plane was taking part, along with two autogiros of the *Aviacion Militar* 41-2 and 41-3, in the festival of the Spanish Aeronautical Federation taking place on the airfield of Barajas at Madrid on June 2 1935. Numerous celebrities attended the various demonstrations of these exceptional machines. Capt. Montero, pilot of one of the two planes, made a well managed landing.

On June 7, Guardia piloted EA-SCB, with Guitián as a passenger, to the international aviation festival in Portugal. Taking off from Getafe, they arrived in the early afternoon at Lisbon. Some demonstrations were carried out on the 9th before a public as surprised as it was enthusiastic.

At the beginning of the Civil War, the two autogiros of the *Aeronautica Naval* were in the governmental zone, one at Getafe and the other at San Javier. Of the six qualified pilots, three were shot for rebelling, two escaped to the rebel zone, and the last stayed in prison for almost the whole war. The autogiros thus did not fly during the war and their fate is unknown.

Two autogiros were also bought by the *Aviacion Militar*. They were brought to Spain by British pilots. They were c/n 781 and 782 and received registrations 41-2 and 41-3

on their arrival in December 1934. They were later re-registered 21-2 and 21-3, and finally YI-2 and YI-3. One was permanently sent to the observers school while the other served to transport officers of *Grupo 21*. They took part in joint maneuvers, but did not fly during the Civil War.

Finally, a plane meant for Xeres González Byass was imported to Spain in 1935, but we do not know its number. Its fate is equally unknown.

GREAT BRITAIN

As mentioned previously, the engineer Juan de la Cierva had to go abroad to find the financing necessary to build a series of his autogiros. It was under these circumstances that A.V. Roe and Co. (later simply called Avro) acquired the license to construct the C.30. Avro already had a prototype of sorts, the first C.30 built from a fuselage of C.19 by the National Flying Services at Hanworth and registered G-ACFI which made its first flight in April of 1933. However, the true prototype of the C.30 was the C.30P G-ACKA, built by Airworks, at Heston, in mid-October of 1933. Avro then produced three planes in a pre-series, the C.30P (G-ACIM, -ACIN, and -ACIO) which were used essentially for demonstrations in Europe. G-ACIM was delivered to LeO in France. Avro built 78 C.30A, which were used both by the military and civilians.

Military Use

One of the first clients for Avro's new autogiro was the British Air Ministry, which ordered ten Avro 671 (builder's designation) on February 14 1934 and twelve planes a little later. These planes were delivered between August 24 1934 and May 23 1935. The Air Ministry wrote Specification 16/35 for this machine which was still experimental. They were designated Rota I in the RAF, and registered K4230 to K4239 and K4775 and K4296.

The first Rota, K4230, was delivered to the Directorate of Technical Development in 1934 and then was transferred to Martlesham for trials on February 5 1935. Flotation bags were installed on the plane and, on September 9, it began its trials on the aircraft carrier *Furious* before continuing them on the *Courageous*. K4296 received a pair of Short floats and a modified rudder, and it flew thus equipped to Medway (Rochester) on April 15 1935 in the hands of pilot Marsh before being transferred to the Marine Aircraft Experimental Establishment the following month. K4775 also played an experimental role and was delivered to the Royal Aircraft Establishment for rotor trials.

Nine autogiros were delivered to the school for Army Cooperation at Old Sarum. However, no manuals were included so these planes were quite useless and they were stored at Hanworth and Hamble. Several machines were damaged, among them the K4234, on January 21 1935, but it was repaired and sent to the civilian market (G-AH MJ). K4231 was lost on September 9 1936 and K4775 was partially dismantled serving as a test bed for the A.S. Civet Major.

It was the Second World War which gave the C.30 autogiros another chance. Thanks to their hovering ability, these planes were used for calibrating the new radar stations situated along the British coastline. Unfortunately, only three of the military C.30As were still functioning. On April 2 1940, they formed the Autogiro Training Flight and were soon joined by several other requisitioned civilian planes and then by

several military survivors who had been reconditioned. One of the big problems which confronted this unit was the lack of instructors; only four were available and they had to be called in from all corners of the country. Other pilots, civilians, were called to the rescue. The autogiros soon formed No. 74 (Signals) Wing based at Duxford and commanded by Capt. R.A.C. Brie. These planes calibrated all the stations from the northern part of the country to the Isle of Wight. At the beginning of 1941, six civilian planes joined the unit (DR622 to 624 and HM580 and 581.) The stable of available C.30As thus contained 17 planes, among them the Rota K4232, 4233, 4235, and 4329. The unit then became the No. 1448 Flight in February 1942 (Cmd. Marsh) then No. 529 Squadron in June 1943, transferring its activity to Henley-on-Thames in August 1944. But every adventure has an end, and, in 1945, the 12 survivors were reassembled into the No. 5 Maintenance Unit and sold on the civilian market in an auction at Kemble.

Civilian Use

A great many C.30A were destined for the civilian market and a great number were exported. The Metropolitan Police, who had already tested the C.19, asked to use the new C.30 for surveillance, as helicopters are used today. Thus, in 1934 the C.30P G-ACIN was obtained on lease. Piloted by sub-lieut. Nash, this plane performed the surveillance of auto traffic in London. Several months later, the Metropolitan Police also leased the C.30P G-ACIO for the same purpose. However, the problem of communication persisted, in spite of the installation of radios starting in September 1934. These radios had a rather short range and were limited to 3 km, which was not sufficient. The Metropolitan Police also leased the C.30A G-ACWZ (via British Air Transport), again for the same task. This intercepted two advertising planes flying too low during the Epsom Derby. Other police units leased pilots and autogiros from local clubs, and only the war put an end to this use which one could certainly consider the best and most fitting for the autogiro. Other civilian planes were bought by rich people or societies/companies that used them during air meets with great success. G-ACUT was used by the Aerial Sites Ltd. for the towing of publicity banners starting in 1938. However, beginning in 1936, the autogiro fell from grace among civilian users. However, the Hanworth club kept six planes until 1939.

After the war, the few autogiros put on the civilian market were overhauled by Cierva Autogiro Co. Ltd. Two were acquired by Southern Aircraft Ltd. (Gatwick), who reconstructed a single flyable plane out of the two. Three others [G-AHMJ (ex-K4235), -AHMI (ex-DR624), plus a last one used for spare parts (ex-BV999)] were acquired by Fairey Aviation Co. in 1946 to familiarize pilots in its Girodyne program. The first of these was acquired by the Shuttleworth Collection who restored it and exhibited it in its war-time colors. The two others ended up as spare parts.

Among the last planes still in service was G-AHTZ, acquired by Esso Aero Ltd. in 1946 and then sold to Rota Towels Ltd. and subsequently burned on March 4 1958. Finally, G-ACUU of M. Baker, was taken off the register in 1960, but is still present at Duxford today.

INDIA

Three C.30A reached India, then a British possession, in 1935. The first (c/n 741) was bought by Prince Ghan-

shyam Singh Ji, and the other two (c/n 742 and 748) were acquired by Tata Air Lines. Unfortunately, we know nothing of their fate.

ITALY

Italy, like numerous other countries, was interested in autogiros. It imported two of them, which were submitted to military trials. These were bought for 248,861 lire, in August 1935, after a demonstration of the G-ACXA on the cruiser *Fiume* in the port of La Spezia in January 1935.

The first to reach Italy was c/n 749, ex G-ADKY. It received the military registration MM.320 and was used in trials until it was destroyed in a crash on April 11 1940.

The second plane was c/n 753, ex G-ACXA. It was first registered MM.321, then MM.30030 (a small series assigned to gliders and experimental planes). In April 1941, the *Regia Aeronautica*, deciding the autogiro was no longer of any use, sold it to Mr. Vittorio Bonomi, of Milan. The autogiro was then registered I-CIER (certificate of navigability #2869). This plane is today exhibited in the Museum of Science and Technology in Milan, to which it was given in 1948.

LITHUANIA

In 1934, the Aeroclub of Lithuania (*Lietuvos Aero Klubas* or LAK), decided to offer its pilots and the public the aerial novelty for the era: an autogiro. An Avro C.30 was thus ordered at a cost 42,000 Lt. Since the LAK could not afford that sum, a loan of 30,000 Lt was obtained from two banks. The rest was covered by donations from sponsors. The autogiro was supposed to be finished in November 1934, but, because of inevitable delays, construction went on until the end of January 1935.

The following February 16, the technical director of LAK and director of its sports squadron, Reserve Commander Jeronimas Garolis, went to Great Britain to learn how to fly an autogiro and to take delivery of the plane. Garolis was a celebrity in his country! A career soldier, he was thrown out of his profession after having attempted a *coup d'etat* in 1934. However, he still held the rank of Reserve Commander and later regained an important position in the LAK before becoming director of the civilian airport at Kaunas. (After the war, he moved to Australia, refusing to live under Soviet occupation, and died in Sidney on December 22, 1972.)

J. Garolis presented his impressions on piloting an autogiro in *Lietuvos Sparnai* (Wings of Lithuania), the magazine of the LAK:

"During the first days of March, I arrived at the autogiro school in Teltham, near London. Advised of my arrival, the director, Mr. Brie, came to welcome me. He gave me a tour of the property, showed me my room, and I met my instructor, Mr. Marsh. I was by then very impatient to see that strange machine and especially to pilot it. Unfortunately, no flights were scheduled for that day. Early the next morning, I was at the airfield. I saw this strange machine without wings coming out of the hangar with huge rotor blades which hung down like the ears of a not very intelligent animal. Could this plane really fly with two people aboard? My instructor told me to take my place on board. After brief instructions about what not to do, he told me what to do and then he started the motor. It was a little like starting a conventional airplane until all of a sudden he engaged the rotor. Faster and faster the rotor

blades were soon turning like a fly around the face of a driver. In a moment, the machine lurched and I held on with both hands, and then we found ourselves in the air. It felt strange to be in a machine without wings which can be turned in any desired direction. I glanced up. The rotor was still turning, and after 500 meters, we were above the airfield. The instructor slowed the motor preparing to land. I told myself that this was a joke! He wasn't going to land on such a small grass surface. The autogiro hovered and I waited. We descended vertically, like the elevator at Kaunas. The ground approached, the nose of the autogiro rose a little and the tail touched down, followed by the wheels, and then we stopped, after a descent of 500 meters!

"After several flights, Mr. Marsh got out and muttered a laconic 'All right' before allowing me to fly solo. After the take-off, I thought that I could do whatever I wanted. After several turns around the airfield, I prepared to land in the same way as my instructor had. The ground approached, but it wasn't the airfield! I clearly saw under me not green turf but the red roofs of English houses. I had to do another circuit before I could land. My sixth sense ordered me to land not like an elevator but like an airplane. After a hesitant moment, I managed to overcome my old reflex of 14 years of service in aviation. After 8 hours of flight, I received my certificate as an autogiro pilot."

J. Garolis left the school on March 27, and after having received the Lithuanian C.30 and taken care of its shipping, he went back to Kaunas on April 1. In May, the autogiro was delivered to the port of Klaipeda and the next day it was taken to the airfield at Kaunas.

On May 23, the autogiro was shown to the public, members of the government, officers, and journalists. On June 6, Garolis made the first cross-country flight, taking the machine to Klaipeda to show it to the staff of the 6th Infantry Regiment and to the people of the town. On the 9th, he flew from Klaipeda to Nida on the Baltic; after a flight of 30 minutes, the C.30 landed at the sea-plane school at Nida where it was inspected by the students and instructors. The plane went back to Klaipeda and then to Telsiai. On the 13th, Garolis flew the president of the LAK, Prof. Z. Zemaitis, paying a visit to the President of the Lithuanian Republic, A. Smetona, at his manor house in Uzelenis.

On August 18, the C.30 participated in an air meet at Nida, and then, on the following 28th and 29th, the machine was shown to the delegates at the Conference of Aeroclubs of the Baltic States. On September 1, there was an air meet at Klaipeda and then on the 8th, the national holiday, at the airfield at Kaunas.

At the invitation of the Estonian Aeroclub and following the accords between the Baltic states, a tournament between the Baltic states was arranged with the planes of the LAK. Garolis, of course, piloted the C.30, taking with him P. Hiksa (vice president and mechanic) and the glider "Nida" (a Grunau Baby) which was towed by the DH-60T LY-LAL. This group, designated an "aerial train", took off from Kaunas on September 14, 1935. After a short hop to Riga, the planes took off for Tallinn, where they gave a demonstration on the 15th. The next day, the C.30 gave another demonstration, this time for Estonian soldiers, before taking off for Helsinki, via the island of Santahamina. On September 17, Garolis gave a demonstration of the C.30 at the Helsinki stadium. The next

day, the "aerial train" returned to Tallinn where the planes stayed for two days because of bad weather. On the 21st, the Lithuanians arrived at Riga where they learned about the transatlantic flight of Feliksas Vaitkus on the Lockheed Vega 5B *Lithuanica II*. All the pilots and planes returned to Kaunas on the 23rd.

In October 1935, several pilots began their training on the autogiro, but the plane was damaged and the students could not finish their training. New rotor blades were ordered from Avro. They arrived in May and the C.30 was flying again in July.

The career of the Lithuanian C.30 between 1935 and 1940 was a succession of demonstrations and air meets. In August 1937, a new group of autogiro students was organized, Garolis serving again as instructor. By the end of the month, several pilots were qualified. On August 20, 1939, the C.30 took part in aerial sports competitions in the Baltic States.

In March 1939, Nazi Germany occupied the region of Klaipeda, including Nida, necessitating the removal of the sea-plane school to Aukstagiris near Vilnius.

When the Soviets occupied Lithuania, beginning on June 15 1940, all civilian and military flights were forbidden. In July, all the planes and gliders of the LAK were taken to Aukstagiris, escorted by Soviet fighters. All the planes were then dismantled and stored in a hangar under Soviet guard.

War broke out in June 1941 between Germany and the USSR and the equipment from the Aukstagiris school was captured by the Germans, who considered it as a prize of war. The airplanes and the sole autogiro were transported to the airstrip of Vilnius-Kirtimai, where they were reassembled and test flown. The Buckers and De Havillands were probably sent to Germany while the autogiro served as a training machine for Luftwaffe pilots who wanted to qualify on such a machine. Unfortunately, after a flight for 'relaxation', a gust of wind overturned the poor C.30 and wrecked it. The machine was not repaired and was scrapped, thus putting an end to the very full career (one of the longest for such a machine) of the LY-LAS, the only autogiro in the Baltic countries!

Norway

The autogiro was hardly a success in Norway since only one plane was used there for a short time. Aircraft c/n 735 was sold to the tobacco maker J. L. Tiedemanns and registered LN-BAD on August 17, 1934. The following year, this machine was handed over to the Norwegian army, which gave it the number '99' and tested it as an artillery observation plane. But the trials hardly seemed satisfactory and the autogiro was sold to the Swedish pilot Rolf von Bahr (see Sweden).

Netherlands

In an article in the magazine *Telegraaf* of July 22, 1936, one reads, "The military aviation at Soesterberg has bought two autogiros of the C.30 type to transport officers of the general staff around the battle field." The facts are somewhat different since all three of the autogiros put in service in the Netherlands remained civil aircraft.

The first autogiro registered in this country was c/n 712, an Avro C.30A (ex-G-ACWJ) which was baptized *Donna Dulcinea*. It was demonstrated in the autumn of 1934 at

Soesterberg before being imported by Autogiro Import, a company owned by H. J. van der Velden based in The Hague. It was registered PH-HHH on January 18, 1935 and made some demonstration flights piloted not only by its owner but also by Hein Schmidt Crans, an instructor of the N.L.S., the National School of Aviation. This pilot made a forced landing on July 8, 1936 at Soesterberg when, during take off, he hit two buses full of passengers, but without serious injury to anyone on the buses. The pilot and his passenger, Lieut. Aviator Benes, who were taking part in military maneuvers, got out without a scratch. On January 18, 1938, this plane returned to Great Britain where it was subsequently used by the RAF.

The second C.30A imported, again by Autogiro Import, c/n 743 (ex G-ACXG) had a very short career. It was registered PH-ARA on June 5 1937 and was irreparably damaged the next day at Waalhaven (Rotterdam). The final C.30A was imported by M. van der Velden; c/n 707 (ex G-ACVX) and registered PH-ASA. It was removed from the civil register following an accident on take off from the airfield at Oostwold on January 25 1938.

The Dutch army, before the number of accidents could increase, cancelled their order and no military autogiro was ever in service in this country.

Poland

Only one Avro C.30A showed up in Poland. It was c/n 745 which had been registered in Great Britain on November 30, 1934, as G-ACYP. The following month found it in Poland where it received the registration SP-ANN. It was tested by an experimental autogiro squadron, part of the 4th Aviation Regiment; but the Polish military hardly seemed convinced since no similar planes were ordered. On September 14 and 15, 1935, SP-ANN took part in the second aerial meet which took place on the airfield of Warsaw-Mokotow. It participated in a contest of short take-offs and landings where it beat the RWD-9 (SP-DRE) by several meters. It seems to have been removed from the Polish civil register on October 24 1936.

Sweden

The activity of autogiros in Sweden is marked by the personality of the pilot, Rolf von Bahr, one of the rare pilots to log thousands of flight hours in an autogiro.

The first autogiro bought by von Bahr was a C.19 (SE-ADU) in 1932. He acquired his first Avro C.30A in September 1934. This plane was registered SE-AEA on the following October 9. The two machines were used by the company AB Autogiro. At the same time, von Bahr became the representative of Cierva in Sweden. The C.30 made numerous tourist and medical evacuation flights. Equipped with skis, it served as transport for people to inaccessible places in winter. Von Bahr also flew demonstration flights for the Swedish army, more specifically for the artillery. The navy benefited equally from the C.30 since numerous maritime reconnaissance missions were undertaken to locate mines floating near the Swedish coast. The autogiro's capability of stationary flight allowed determination of the position of the devices and the guidance of ships to them. On November 17, 1945, the autogiro was transferred to the company AB Helikopterflyg, a new creation of von Bahr. Flights continued until August 7, 1947 and the plane was taken off the Swedish

civil register on December 31 1956. In 1948, it was taken to the Stockholm technical museum, where it is still on exhibit.

Von Bahr acquired a second C.30A in 1936. Formerly a Norwegian plane, it was registered SE-AFI on September 26 and given the number '3' by von Bahr. Its registration gave it the affectionate nickname of *Fifi*. This plane served in the same way as its predecessor and it was also transferred to AB Helikopterflyg before being sold to the Orebro Air Club on November 11, 1949. It was damaged on July 18 1951 at Eskilstuna, then taken off the civil register on the following December 31. It was then sold in 1962 to the Netherlands, where it was exhibited at the Schipol-Aviadrome.

On October 24 1940, von Bahr went to Denmark to buy two autogiros from the Danish army, M-1 and M-2 had been stored since April in a warehouse. On November 26, M-1 was registered SE-AKW, but M-2 was not registered and never flew again. It certainly served for replacement parts, although in the beginning von Bahr had thought he would use it, since the registration SE-AFZ was reserved for the company.

SE-AKW was unfortunately totally destroyed on March 15, 1943, at Barseback and taken off the civil register on the 26th.

A fifth autogiro was acquired by von Bahr. This was c/n 732 (ex G-ACWS, ex AP509) then registered G-AHUC. It was put into service with the registration SE-AZA on September 17, 1947 by AB Helikopterflyg before being sold to the Orebro Air Club on November 11, 1949. It was transferred to H. Liljedahl on January 9, 1951 and finally to Ms. Forsberg, Olsson, and Aslund. It stopped flying on January 12 1952 and was removed from the civil register on February 21 1958.

The final C.30A bought by von Bahr was a machine that had served in the RAF as K4232 (c/n 746). It received the registration SE-AZB on June 12, 1952, before being sold to the Orebro Air Club. It was reacquired by von Bahr on July 7, 1960 and forbidden to fly on Dec 31 1966. It was sold in 1978 and is now exhibited at the RAF museum in Hendon.

Switzerland

Switzerland acquired only one Avro C.30A; c/n 736 ex G-ACWU. In Switzerland, the plane received the registration HB-MAB on December 17 1934, and was put into service by the company Alpar AG based in Bern. They wanted to use it for transportation between snowed-in ski resorts. In 1935, Alpar made several trials, but after an accident on landing at Bern-Belpmoos, the autogiro was used only for demonstration flights, mainly in Germany and France. HB-MAB was piloted on these occasion by M. Glardon of Lausanne accompanied by the mechanic Alfred Oess, who took his place in the front cockpit. Numerous air meets in Germany later attracted some 300,000 spectators! On July 14, 1935, at Cologne, HB-MAB underwent an accident on landing; not serious for the crew but leading straight to retirement for the aircraft! It was taken off the Swiss civil register on the following December 31.

Czechoslovakia

Two Avro C.30A autogiros were imported to Czechoslovakia, one civilian and the other military. The first, c/n 739; was built for the Bata company, a well-known shoe manufacturer. It arrived in Czechoslovakia on October 2,

1934 and was used for publicity flights. This plane participated in the international aeronautical fair in Belgrade in May 1938. It is likely that it was seized by the Germans, but its fate is unknown.

The second autogiro, c/n 754, was first registered G-ACXB in Great Britain on April 4, 1935. It was then imported by the State of Czechoslovakia in June, 1936, with the civil registration OK-IEA. It was sent to the VTLU (the aeronautical military technical institute) for trials. There it received registration '8S'. Its fate is unknown.

USSR

The USSR received only one Avro C.30A autogiro, c/n 779. The origin of this purchase goes back to January 1932, when Berzin, the head of the Secret Service of the Red Army, sent a letter to Alksnis, the commander of Soviet aviation. This message contained an extract of a report from a Russian officer who had seen an autogiro in the US. Alksnis was immediately interested in this bizarre bird and suggested acquiring one.

The Amtorg Company (a company under American law, with Soviet capital) was in charge of this acquisition. After some research, Amtorg was advised by the Americans to contact the British autogiro manufacturer In February 1932, Toukhachevskiy (commander of the army and vice-minister of defense) ordered the department of foreign affairs to get information from Great Britain. The service of the Soviet military attaché in London was used to get into contact with Avro, builder of the C.30 autogiros.

The negotiations took quite a lot of time (although no documents detailing them have ever been found) and in the beginning they were concerned with acquiring a C.19 (which seems reasonable from the date). But the C.30A was soon put on the market. In August 1934, Soviet specialists examined one of them during an exposition in Copenhagen. The report of the Soviet delegation stressed, "It must be mentioned that the C.30, an autogiro with neither wings nor control surfaces, seems to have numerous advantages in the simplicity of its piloting and of its maintenance". The decision to buy an Avro C.30 was thus taken.

The plane was inspected and accepted by the Soviets who went to Avro. It was then disassembled, put into crates, and sent by ship to Leningrad. It was a civilian machine equipped with an AS Genet Major motor. At the beginning of 1935, the plane was delivered to the OELID TsAGI, the department for aerial testing and experimentation of the aerodynamic institute. It was tested and examined there. The following September, the autogiro went to the NII VVS (the Soviet aviation test center) where it underwent a complete program of testing. The aim of this program was to determine the capabilities of this new device and to decide on its possible military uses. The flight tests were done by pilot A.A. Ivanoskiy, accompanied by several observers, among them Shaurov, Nikitin, and Shishkin. Thirty-eight flights were made from September 25 to October 4, 1935, totaling 14 hours and 10 minutes. The recorded performance corresponded generally to those announced by the builder. The pilot noted that the plane had its peculiarities, but that it was not complicated to fly. Most of the evaluation concerned the use of the C.30 for observation for artillery and for liaison. It was compared to light planes in this respect. The military still preferred

the light planes for this as they believed the military uses of the autogiro were limited to communication, checking of camouflage in rear areas, and liaison flights.

The C.30 was also compared to the indigenous A-7 autogiro, created for military use and judged better. However, the results of the test program of the C.30 were used in the design of the A-12 autogiro.

We do not know the ultimate fate of this unique Soviet Avro C.30A.

Yugoslavia

At the end of the thirties, the success of the autogiros of Juan del Cierva attracted the attention of the specialists of the *Vazduhoplovstvo Vojske*, the Yugoslavian Royal Air Force. They were looking for an aircraft to replace their completely obsolete observations balloons which were about to be retired from service. At that time, Yugoslavia was buying a lot of aeronautical equipment in Great Britain and took advantage of this to acquire, on an experimental basis, two Avro 671 or C.30A. The air force was hoping to reorganize its balloon battalion into a unit of two squadrons, each using six to eight autogiros.

Before the delivery of the two machines, two experienced pilots, Capt. Drago Brezovsek and Aksentije Panis, were sent to the Fletham Autogiro School in Great Britain to learn how to fly autogiros. They began their training at the end of 1937, under the direction of instructors Stoker and Marsh. When this training ended in March 1938, the two pilots received their pilot's certificate for private airplanes and autogiros no 14020 and 14021. The two Yugoslav autogiros (n/c 1029 and 1030) were taken from Manchester-Chadderton to Hanworth. There they were disassembled, crated, and sent to Yugoslavia.

On April 1, 1938, *I. Blaonska Grupa* was renamed the *I. Autogiroska Grupa*, commanded by commandant Miodrag K. Nikolis. The first balloon company became the autogiro group and the second and third balloon companies were designated the first and second autogiro squadrons, commanded respectively by the two qualified pilots Brezovsek and Panis. Each squadron was provided with an autogiro and several antiquated liaison and training planes. It was intended to buy more autogiros, but nothing was done to realize this purchase.

The first public appearance of the Yugoslav autogiros occurred at the end of spring, 1938; Capt. Brezovsek made several demonstration flights during the international aeronautical exposition at Belgrade in May.

In their units, the two autogiros were considered delicate aircraft requiring sensitive piloting. Accidents were not rare and the two machines were not always available. In spite of this, they participated in the maneuvers of the summer of 1938, operating from the airstrip of Mira near Leskovac. However, the unit had to be dissolved in April 1939; the formation of a new 5th Fighter Regiment at Nis having priority. The autogiros took part in the summer 1939 maneuvers, operating from the airstrip of Skoplje-Petrovac. After that there is no further trace of their use.

On April 1, 1939, the *I. Autogiroska Grupa* was officially dissolved and transformed into the 21st Reconnaissance Group, its planes being distributed among various units. As for the two autogiros, they were retired from service

after the summer and stored, their state deteriorating rapidly. Unofficial sources say that the two unserviceable machines were included in the organization of the *Opitna Grupa*, the CEV of Yugoslav aviation. They should have been sent to Kraljevo during the German invasion in April 1941. However, the most probable story is that they were stored at Nis, where they were destroyed by German aerial bombardments or sabotaged. In any case, neither of them appears on the German or Italian list of captured planes.

The reasons for the abandonment of the autogiro in Yugoslavia are evident (as in most of the other countries trying the same experiment). The principal ones are the lack of knowledge about their use and lack of support by aviation authorities, but also the lack of trust and the priorities given to fighting and bombardment. But their fragility and the relative difficulty of piloting as well as the damages undergone in the course of minor accidents, leading to long periods of unavailability, also led to the lack of interest in such craft among the Yugoslav military.

The two Yugoslav autogiros were officially numbered 1 and 2 (Br 1 and Br2, respectively c/n 1029 and 1030). They were painted entirely in metallic gray, the metal parts retaining their natural color. The national insignia were displayed in an unusual way, on and under the fuselage. The national colors were displayed on the rudder. The rotor blades were aluminum on top and gray underneath, while the propeller had a natural metal color with little yellow bands.

Photo Captions (All photos via Michel Ledet)

Page 109: (upper left) The second A.30A of the Argentine army. (via Gergio Bellomo). (upper right) The Austrian C.30A at an Air Festival of September 19, 1937. In the background

are an Austrian Gotha Go 145 and a squadron of Avro 626. (R. Reisinger). (lower left) This is the only known photo of of a C.30A with a motor cowling. OE-TAX is seen here with Austrian national colors on the rudder and the serial number '63' in the white field. (R. Reisinger). (lower right) A view of the A.30A that was tested and rejected by the Belgium army. (Musee de l Armee Bruxelles)

Page 143: (upper left) The second A.30A M-2 acquired by the Danish Army. It is seen here that it is sometimes necessary to be an acrobat to help start an autogiro. (RDAF). (upper right) The second C.30A acquired by the Spanish Aeronautica Naval EA-SCB seen in front of one of the hanger at San Javier in the spring of 1935. (Jose Antonio de la Maza via C. O Donnell). (lower left) The C.30A of the Spanish Aviacion Militar received three successive registrations. Shown here is YI-3, formerly 41-3 then 21-3. (lower right) The Lithuanian C.30A LY-LAS shown during a visit to Finland in September 1935. (via the Lithuanian Air Museum)

Page 144: (upper left) The Norwegian C.30A in the national marking carried during the short period it was being tested by the Norwegian army. (Norwegian Air Museum). (upper right) A photo of the Polish A.30A SP-ANN during the International Air Meet, September 1935. This aircraft bested RWD-9 SP-DRE in the short takeoff competition. (coll. M. Passingham). (lower left) One of the Yugoslav A.30A photographed at the Avro factory before its acceptance flight. (coll. S. Ostric). (lower right) The C.30A tested by the Czechoslovak military was registered 8S with the 'S' designating the Aviation Test Center. 8S is seen here participating in maneuvers with the Czechoslovak army. (coll. M. Passingham)

Cessna 337 in the Fuerza Aerea Ecuatoriana

Jorge Delgado

The prototype of the twin-engine Cessna 337 Skymaster, which first flew on 28 February 1961, was unusual for twin-engined aircraft because of the unusual push-pull arrangement with the thrust line for each engine on the center line of the aircraft. Later versions added such improvements as retractable landing gear, increased seating from 4 to 6, electrically-operated flaps, and deicing systems for the tail and wings. Between 1967 and 1970, Cessna produce 501 O-2A in the Forward Air Controller (FAC) version. This aircraft served during the Vietnam War for the identification and markings of targets for gun batteries and bombers. With four hard points under the wings, the O-2A could carry a wide range of weapons. Thirty-two of these airplanes were also built for psychological warfare as O-2B. They were equipped with loudspeakers and a device for dispensing leaflets. The pilots named it the "Bull Shit Bomber". Other 337s, with two machine guns in the wing, served in Zimbabwe with great success. The Nicaragua Air Force, loyal to Somoza during the civil war, used the 337 against the Sandinista Rebels. Other countries use this plane for VIP and liaison duties.

The Cessna Skymaster 337 of the Ecuadoran Air Force received military serial FAE 162 and civil registration HC-GYA. This airplane served for

many years with the Direccion de Aviacion Civil and later with the Air Force.

On 21 May 1974, Skymaster 337 FAE 162, with the Tnte. Oscar Ayala and the mechanic Milton Teran, took off from the Military Base at Pastaza on a flight to the town of Tiputini. They had been flying for about four and a half hours when the encountered bad weather and got lost. They sighted a landing stripe that turned out to be an old aerodrome built by the Ecuadoran Anglo Company during the decade of the 40s. This strip, named Pabicocha, was located to the southeast of the military out post at Curaray. During the emergency landing, the airplane suffered light damages in the props and landing gear. A group of mechanics was sent to carry out repairs and to return the aircraft to the Air Base at Quito.

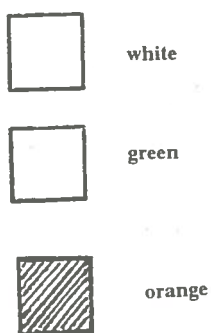
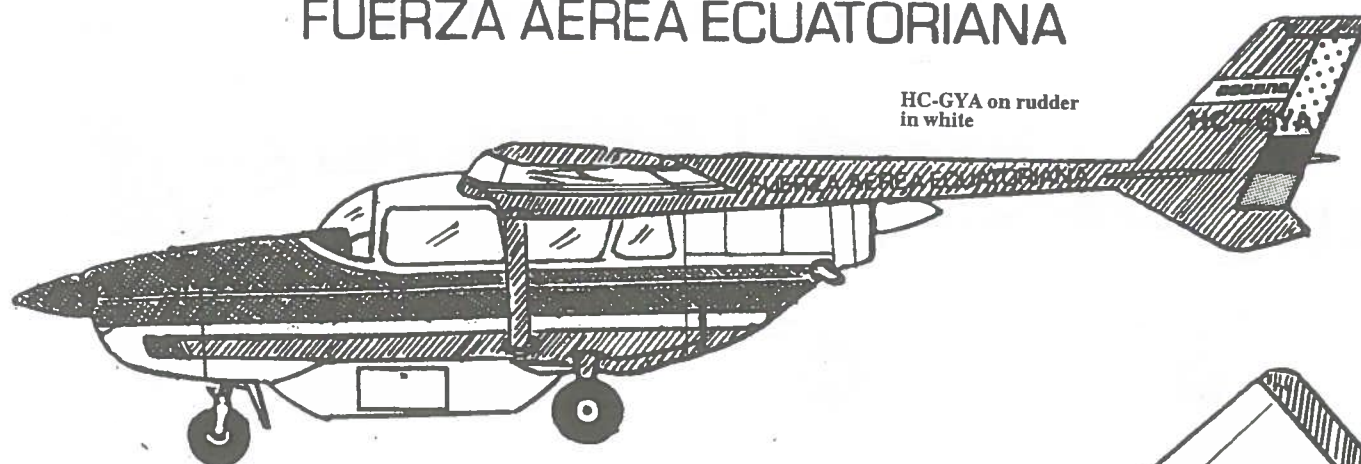
After 8 additional years of service without a problem, on 19 January 1982, while flying from the city of Salinas to Guayaquil, the pilot, Tnte. Bravo, lost an engine and had to make an emergency landing at the 15-kilometer mark on the highway to the Ecuadoran coast. The pilot, copilot Subtnte. Larrea, and passengers Major Lopez and mechanic Salas, all survived the landing with only minor bruises. Cessna FAE 162 suffered structural damage and both propellers were bent. The plane

was take by a Hercules C-130 to the Air Base Mariscal Sucre near the city of Quito for repairs that would take a year and half.

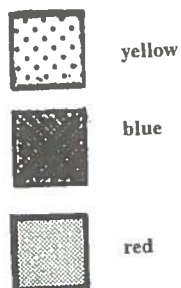
After these repairs had been completed, on October 29 1983, Cnel.(r) Hugo Hidrovo took off from Mariscal Sucre at 1030 hours to make pertinent tests. After 20 minutes of flight, troubles developed and the forward engine stopped. Because of the weight of the three mechanics aboard, Cnel. Hidrovo knew that he couldn't make it back to the Air Base and chose instead to make an emergency landing in a corn field on the outskirts of the Military School Eloy Alfaro at Parpayacu outside of the city of Quito. This time the Skymaster experienced damage to the rear propeller and the landing gear. The high command of the Air Force decided that it was the time to retire this noble airplane. FAE 162 was given to the Aeronautical Museum at Air Base Mariscal Sucre of the city of Quito where it can be seen in its last paint scheme. Alongside a Beechcraft C-45 donated by the Chilean Air Force, it welcomes all visitors at the entrance of the Museum.

Jorge Delgado (SAFCH #862), PO Box 2207 - URDESA, Guayaquil, Ecuador.

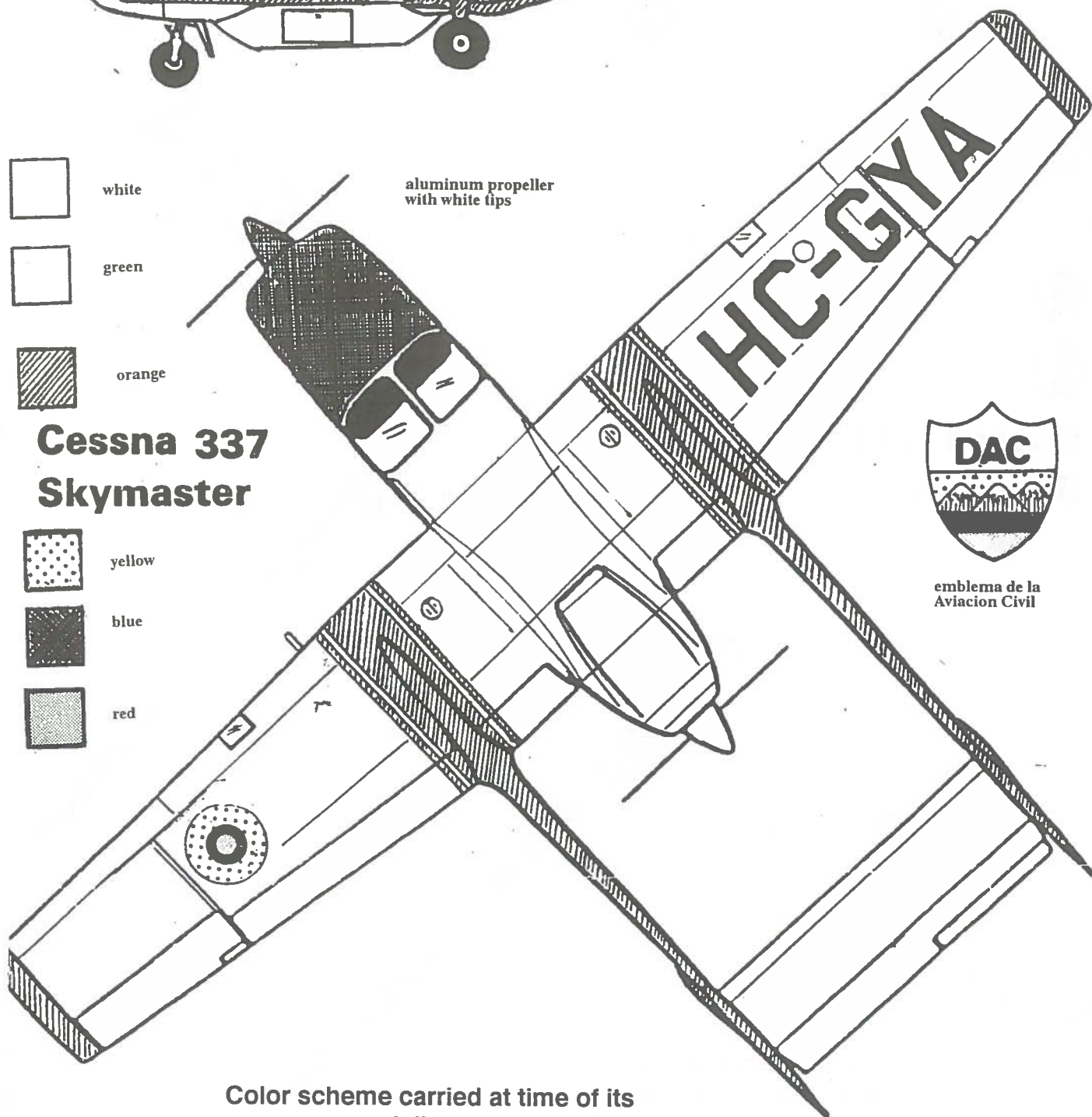
FUERZA AEREA ECUATORIANA



Cessna 337 Skymaster



aluminum propeller
with white tips

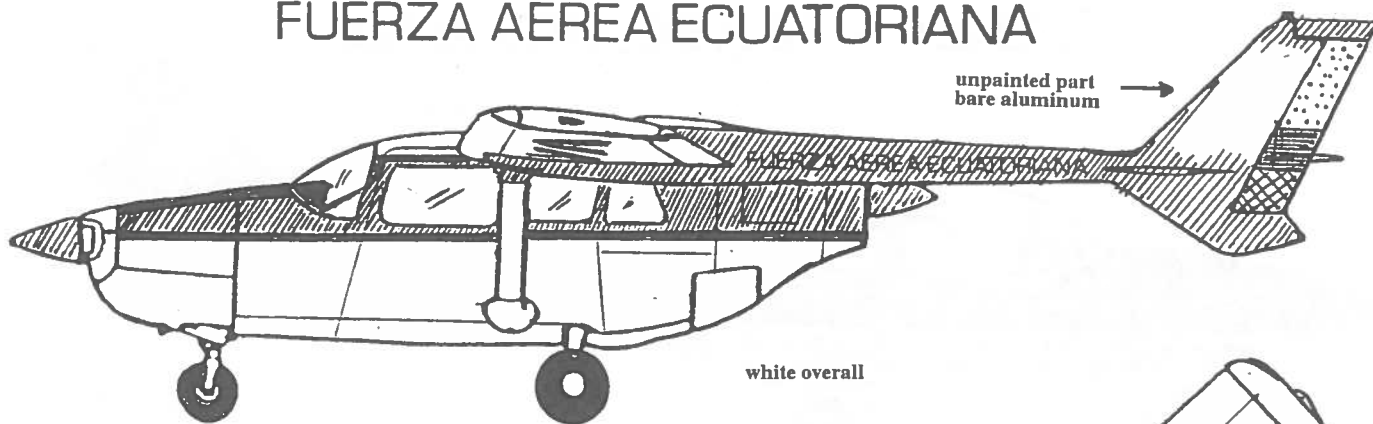


emblema de la
Aviacion Civil

Color scheme carried at time of its
delivery

Jorge Delgado P. (SAFCH #862)

FUERZA AEREA ECUATORIANA



orange



yellow



blue



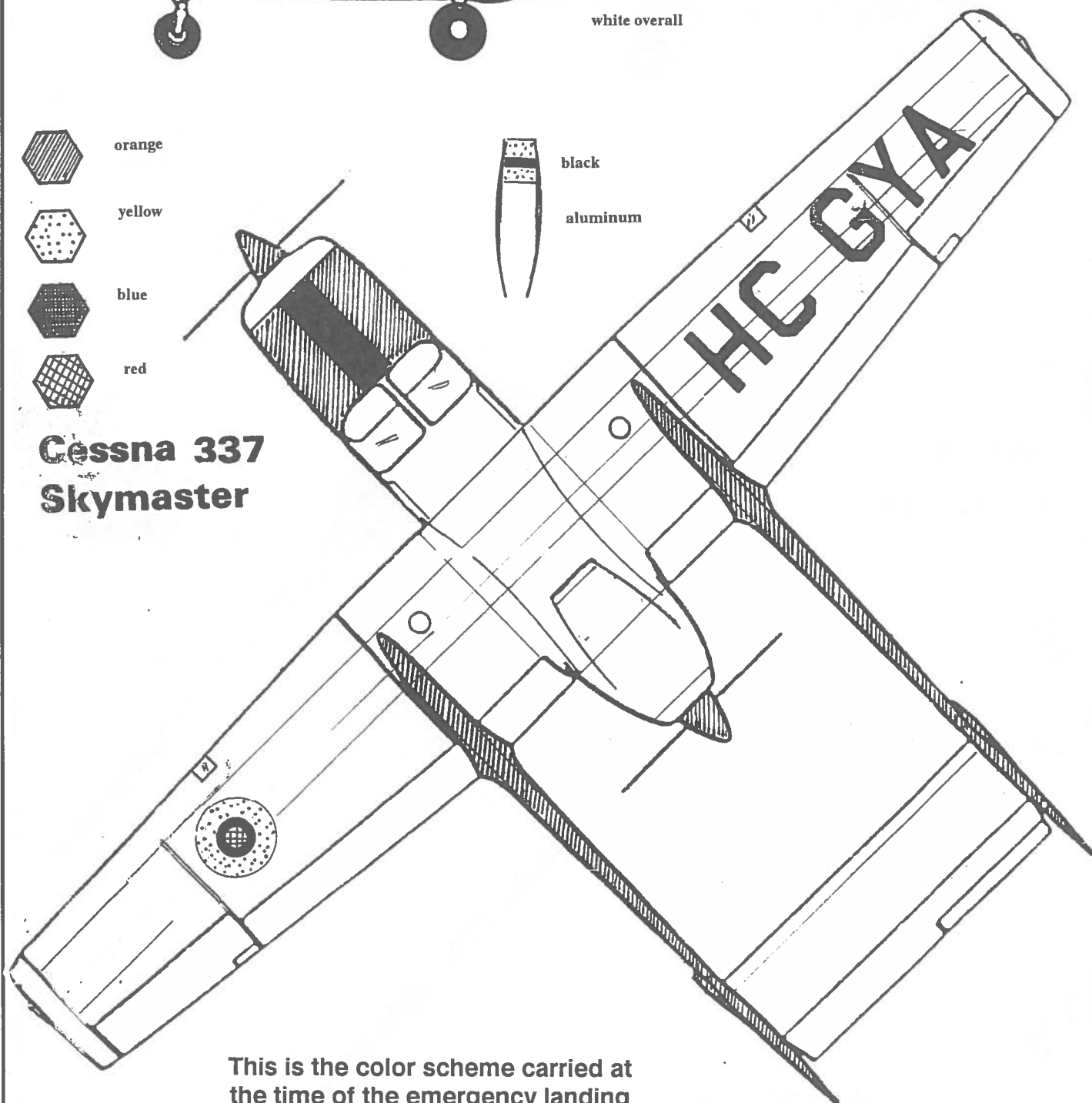
red

**Cessna 337
Skymaster**



black

aluminum

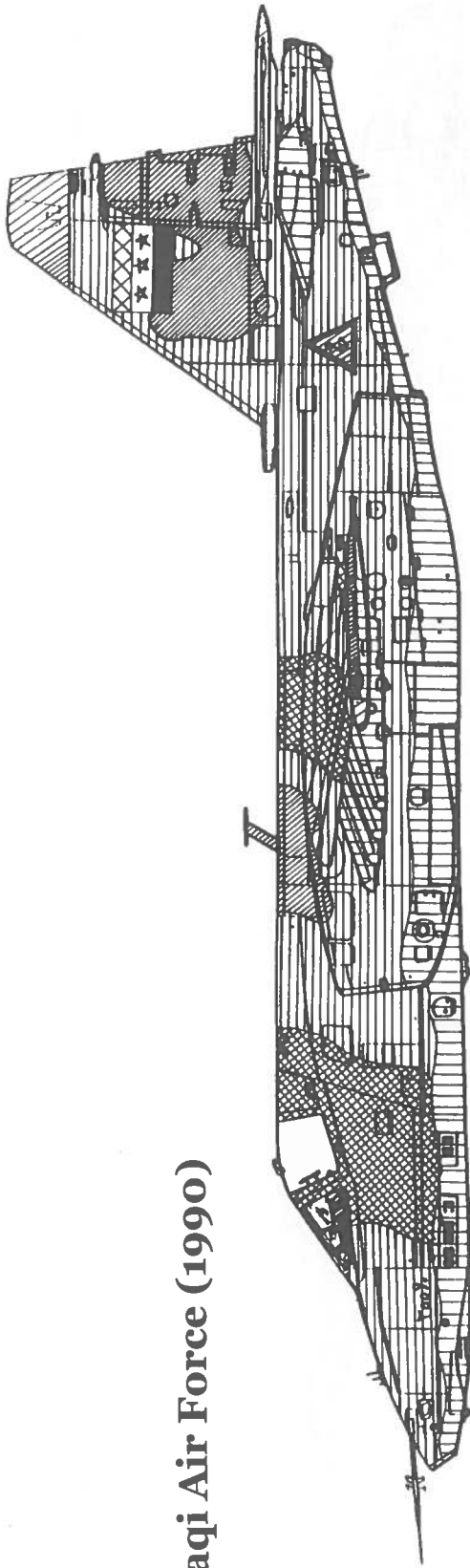


This is the color scheme carried at
the time of the emergency landing
on 19 January 1982

Jorge Delgado P. (SAFCH #862)

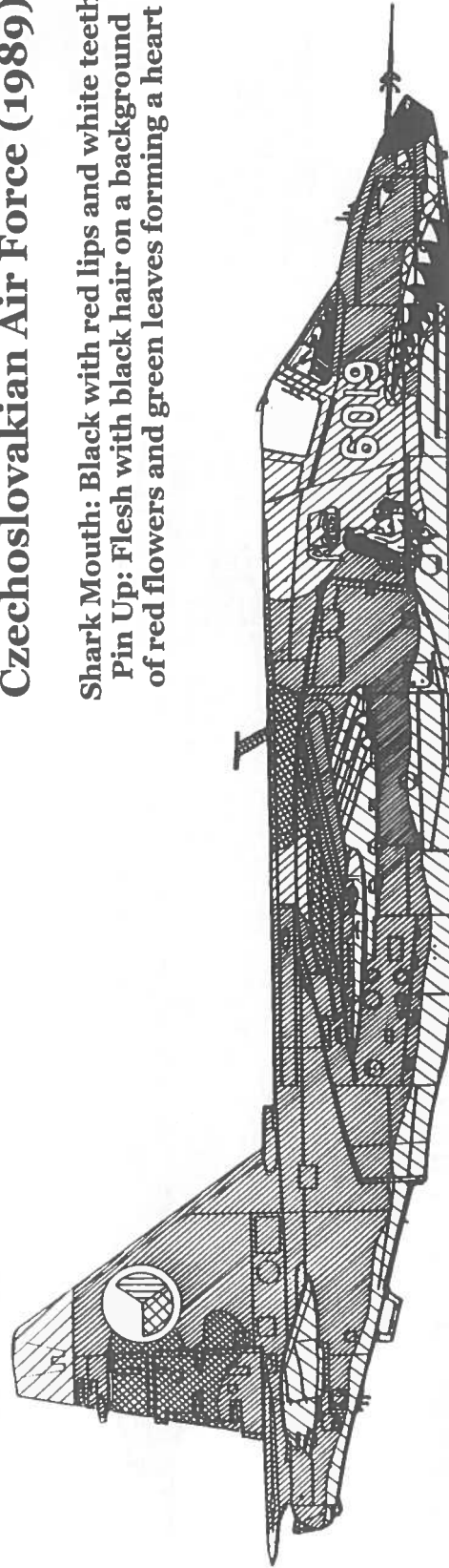
Sukhoi Su-25 Frogfoot

Iraqi Air Force (1990)



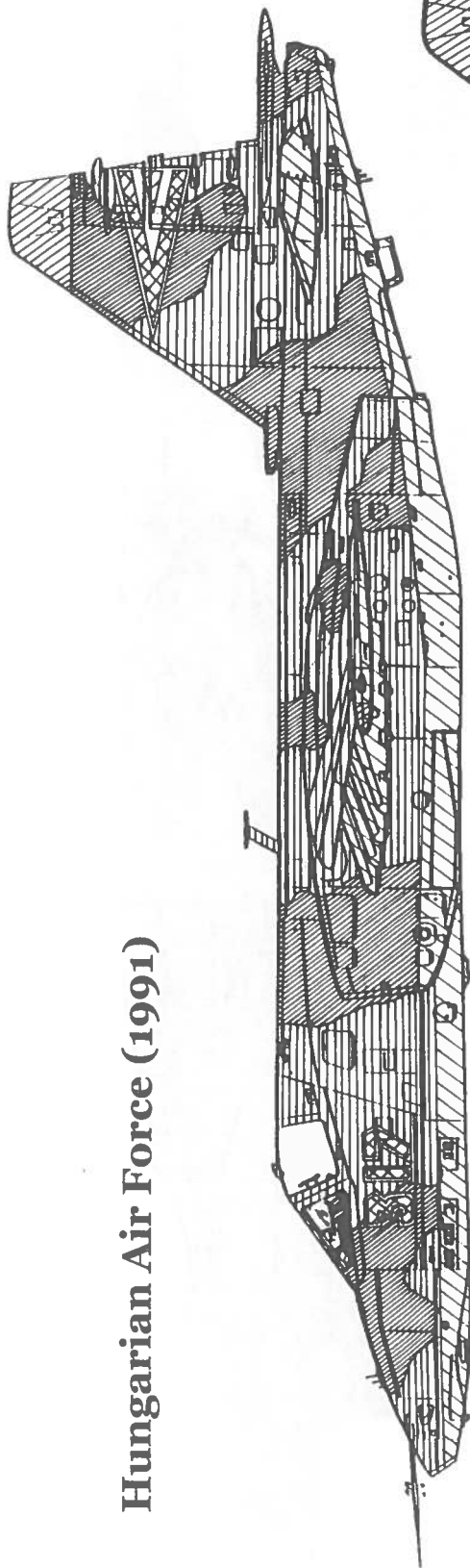
Czechoslovakian Air Force (1989)

Shark Mouth: Black with red lips and white teeth
 Pin Up: Flesh with black hair on a background
 of red flowers and green leaves forming a heart

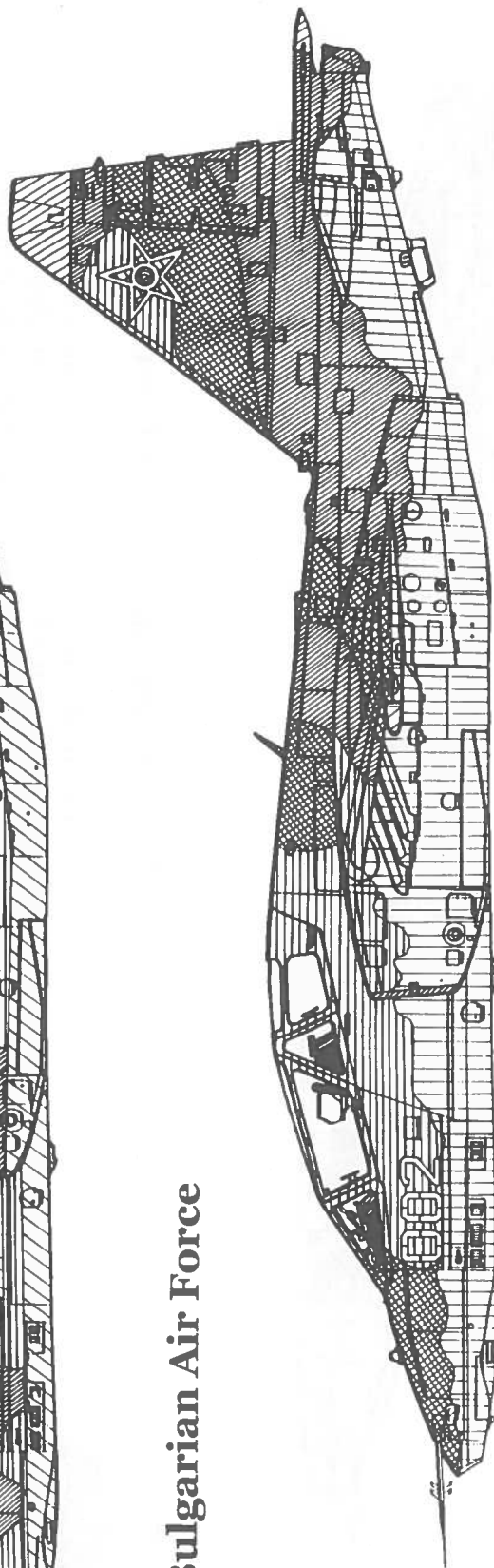


Hubert Cance (SAFO #809), 56 Bd. E.Lintilhac, 15000 Aurillac, France

Hungarian Air Force (1991)



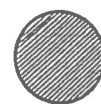
Bulgarian Air Force



medium green



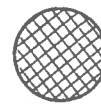
olive green



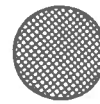
dark green



sand/light earth



red



chocolate



light grey



light blue



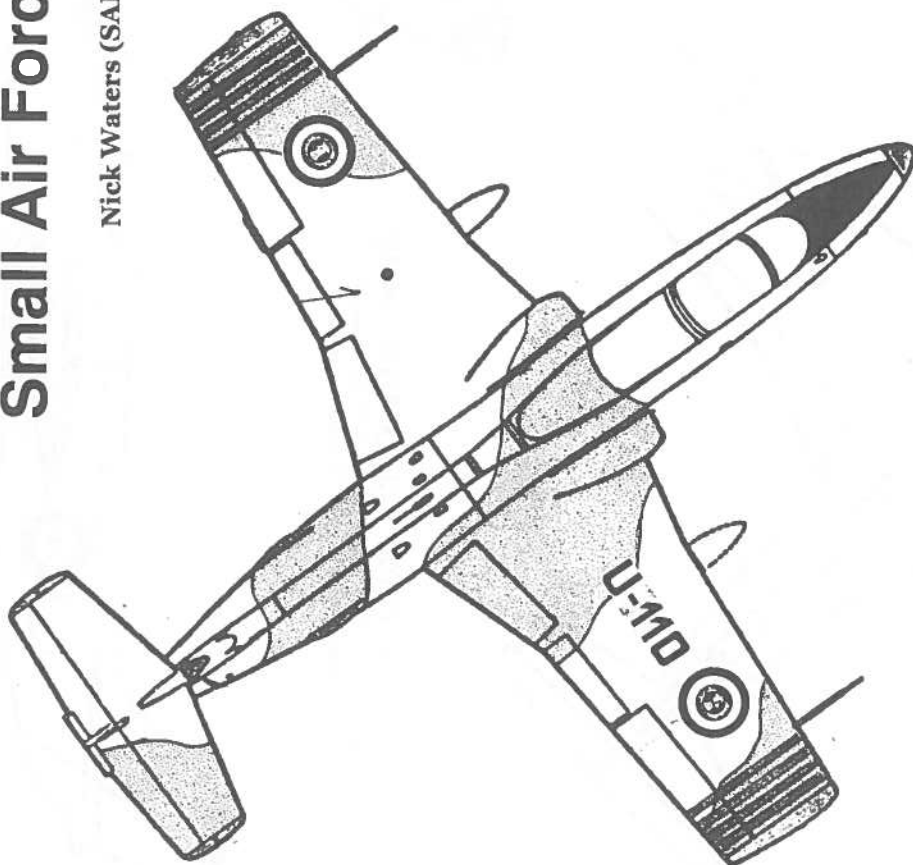
medium blue



dark blue

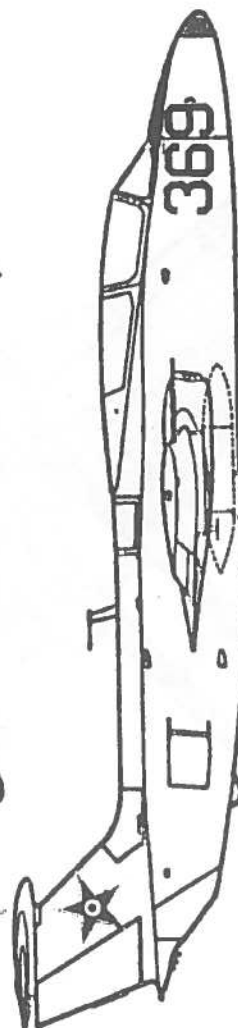
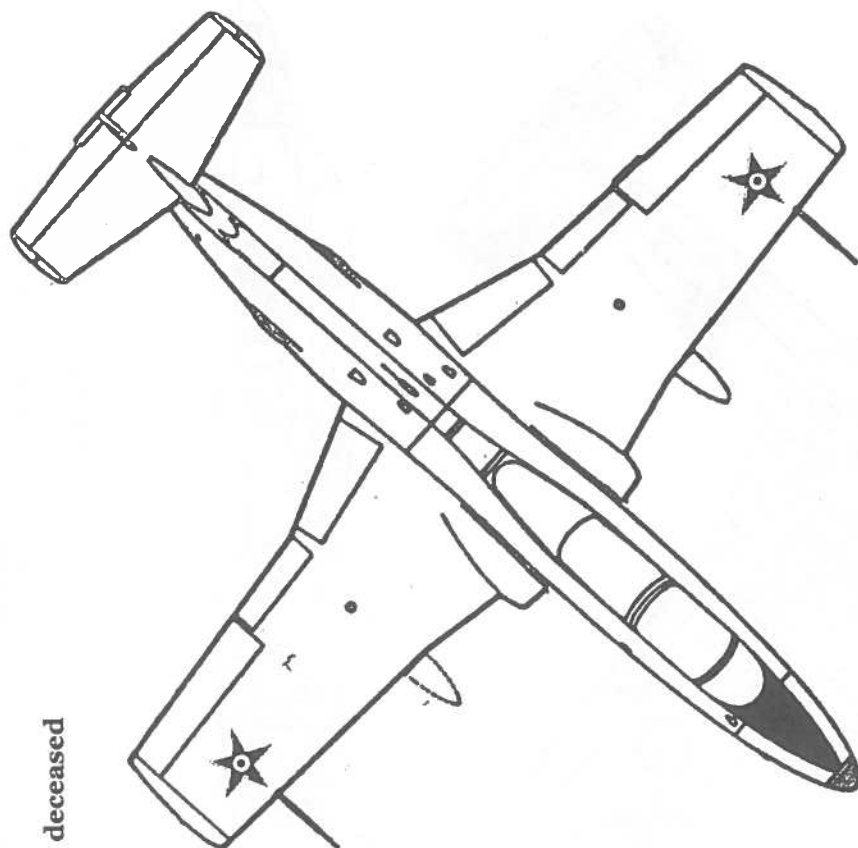
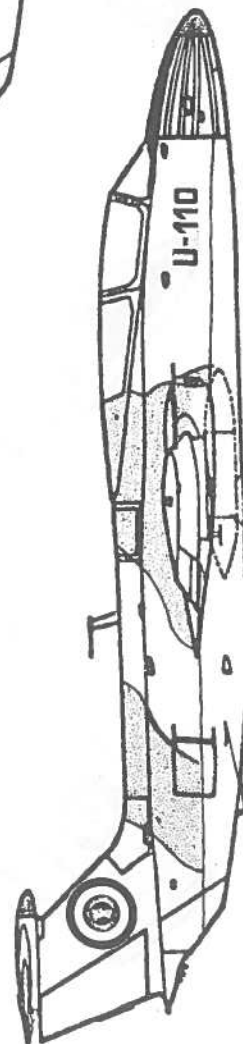
Small Air Force L-29 Delfins

Nick Waters (SAFCH #2) deceased



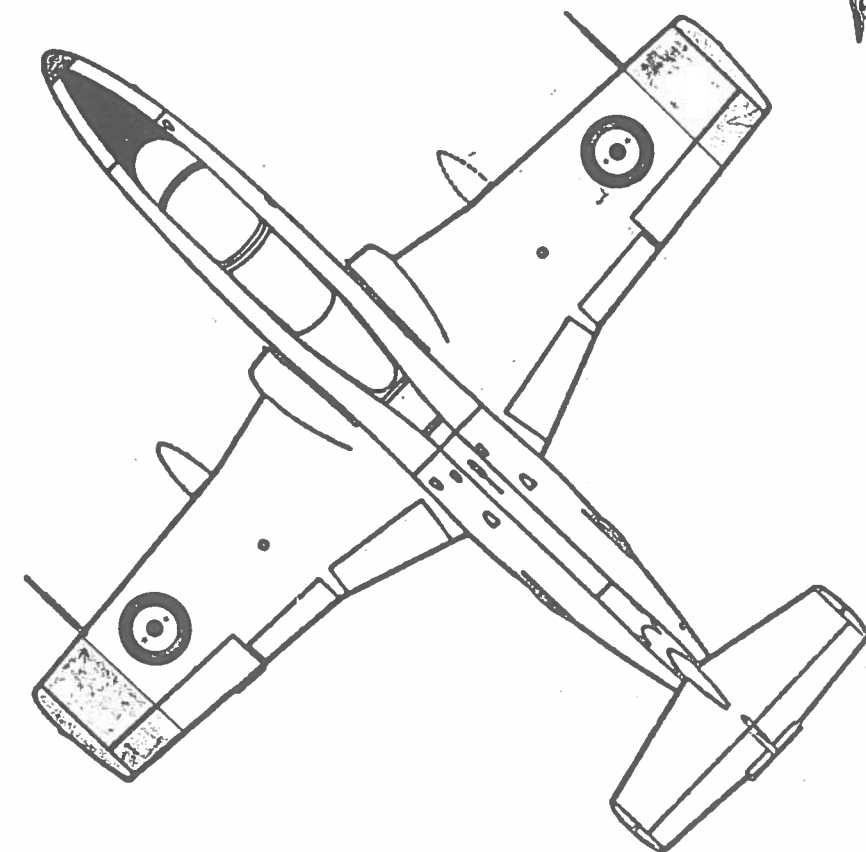
Ugandan Air Force 1975

Camouflage: medium grey and red-brown over light blue-green. Red stripes on wing and nose. Insignia in 4 wing positions and fin. Serials repeated underwing. Numbers in black.



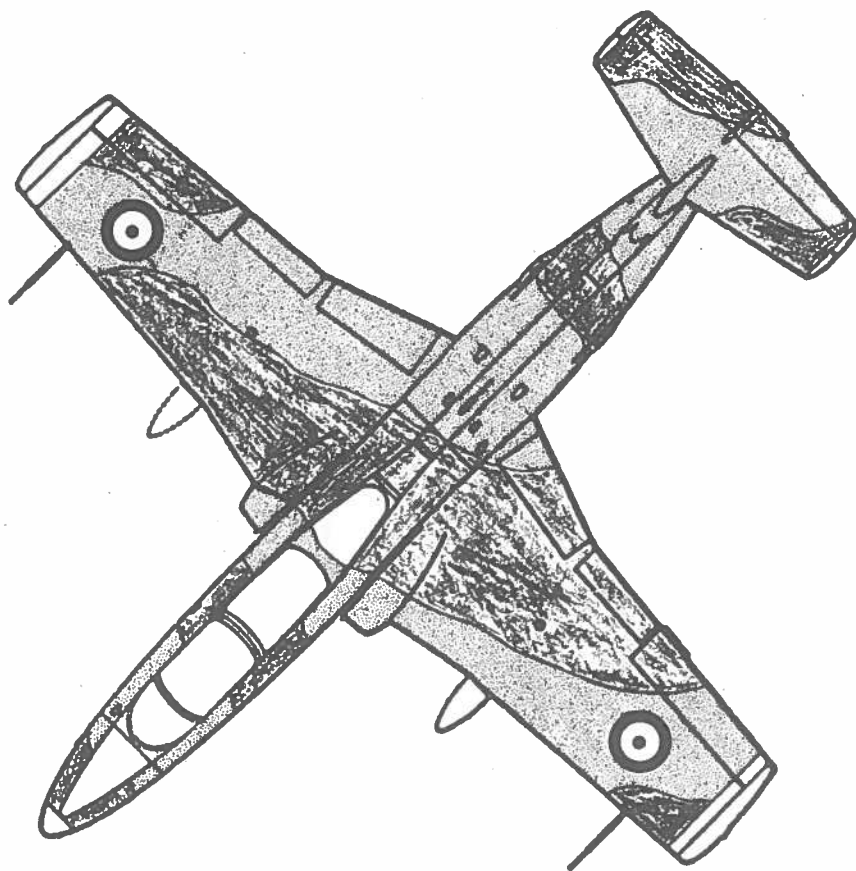
Romanian Air Force 1963

Bare metal. Insignia in 4 wing positions and fin. Nose and numbers in red. Antiglare panel black.



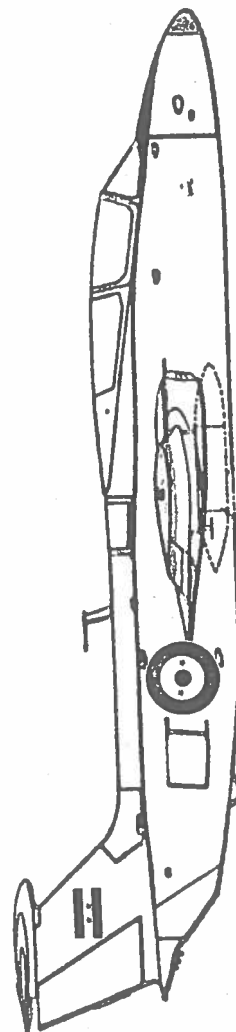
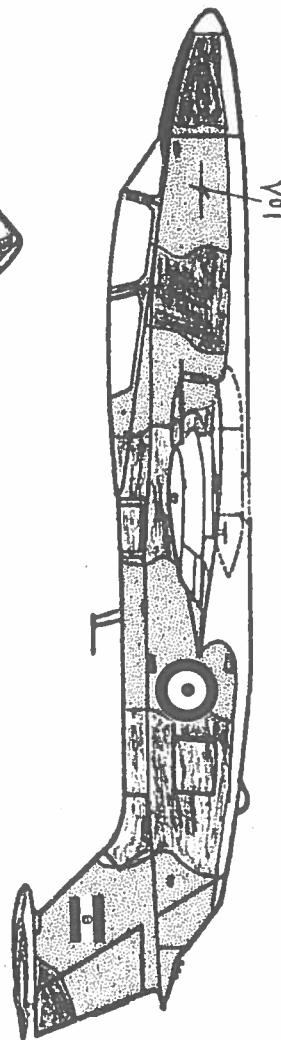
Syrian Air Force 1963 (UAR markings)

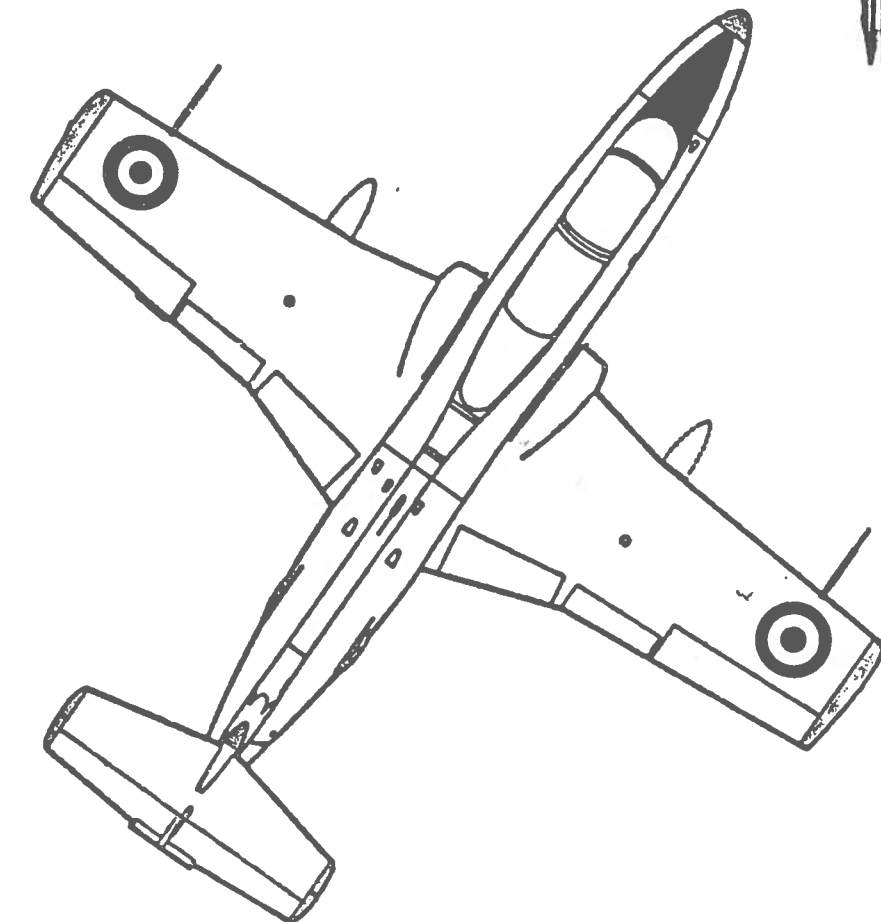
Bare metal. Wing tips and nose red. Antiglare panel black. Insignia in 6 positions. No numbers noted.



Egyptian Air Force 1980

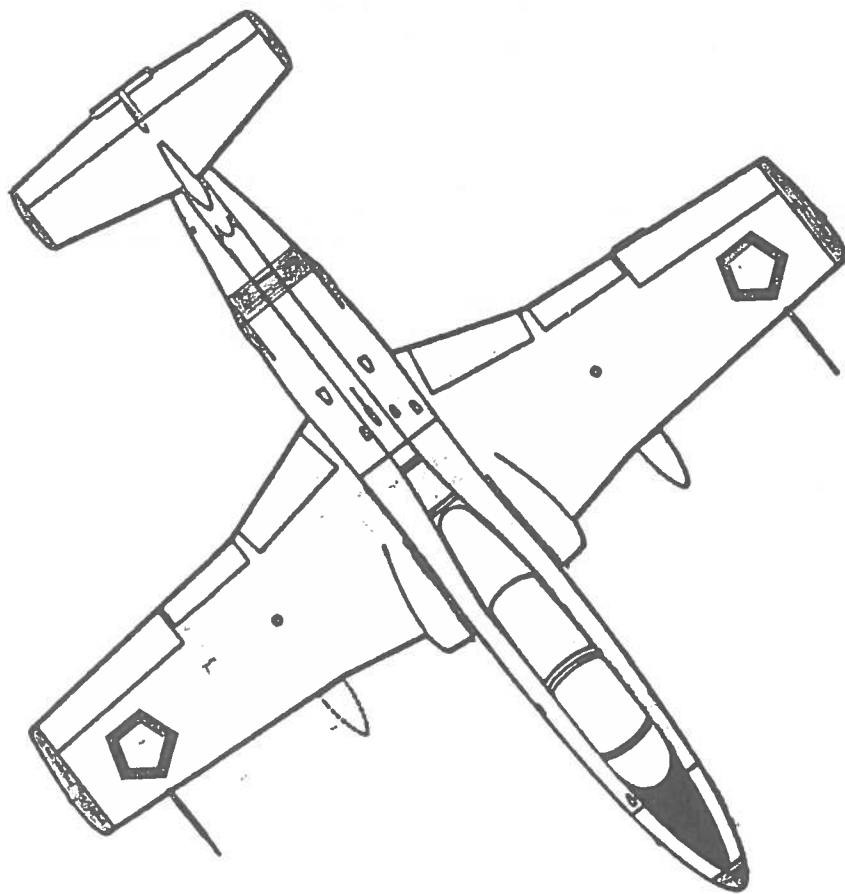
Camouflage: Sand and dark olive green over light blue. Insignia in 6 positions. Wing tips yellow inner; red outer. Nose tip red. Arabic numbers and antiglare panel black.





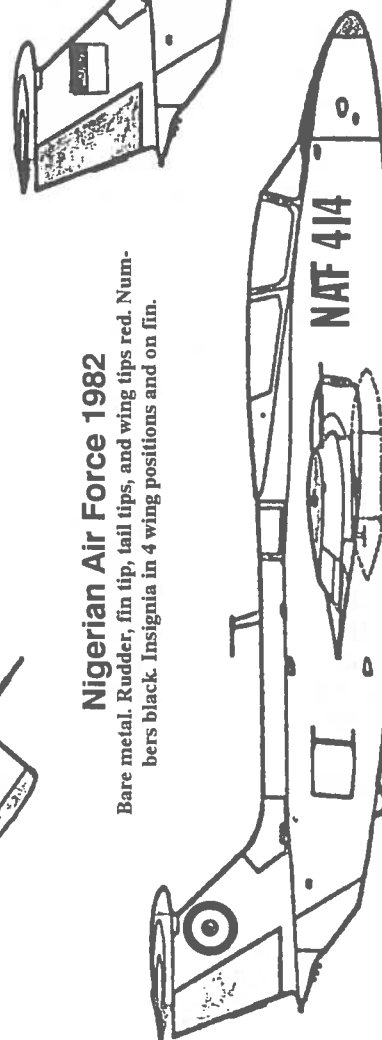
Nigerian Air Force 1982

Bare metal. Rudder, fin tip, tail tips, and wing tips red. Numbers black. Insignia in 4 wing positions and on fin.



Indonesian Air Force 1979

Bare metal overall. Wing tips, rudder, fuselage bank and nose red. Antiglare and numbers black. Insignia in 6 positions.



[Ed: The January 19, 2004, issue of Aviation Week contains a 20-page section on "World Military Aircraft Inventory" listing the military aircraft currently in use around the world. I was surprised to see many L-29 Delfin still in use. Since Nick Water's drawings are rather old, I thought it a good idea to solicit readers for information (drawings?) of Delfins in the markings currently being carried. The countries still using Delfins are (with the number in service in parentheses): Angola (6); Azerbaijan (14); Bulgaria (20); Egypt (30); Georgia (4); Mali (6); Romania (12); Slovakia (11); Syria (40); and Vietnam (4).]

Servicios Aereos de la Policia Federal Preventiva (Air Services of the Policia Federal Preventiva)

Santiago A. Flores

The Policia Federal Preventiva (PFP), a para-military force that specializes in fighting crime in Mexico, was created on December 13, 1998 by combining three existing security agencies.. It is under the control of the Secretaria de Seguridad Publica (Secretary of Public Security). Its first officer in charge was Contra Almirante Wifredo Robledo of the Mexican Navy. The first chief of the Servicios Aereos was Capt. Alfredo del Valle Caballero who was replaced on February 20, 2001 by ex-Mexican Air Force General Carlos Mendivil Cabrera. At the time he took over, the Servicio Aereo had 42 aircraft of which: 24 were helicopter and 18 fixed-wing aircraft. The majority of these aircraft came from the disbanded Policia Federal de Caminos and the Secretaria de Gobernacion, while 18 more were purchased between 1999-2000. Since then, the force has suffered through a number of reported scandals in the purchase of aircraft and helicopters. Among these problems is that some aircraft have major maintenance problems that have forced them to be grounded half of the time because of engine problems and difficulties in obtaining parts.

In recent years, the Air service has been reduced to 36 aircraft (13 fixed-wing aircraft and 23 helicopters). It is reported that these aircraft are based in four different airports in the area of the Distrito Federal and the state of Toluca.

The present chief of the Transportes Aereos of the PFP is a civilian Ing. Luis Federico Berthrand

On July 18th, 2003, the PFP put on the sale block 13 aircraft (8 Helicopters and 5 fixed-wing aircraft)

Fixed Wing:

Lear Jet 29	XC-HIE
Britten-Norman Islander A9	XC-UPL
Cessna 182S	XC-FPF
Cessna 182S	XC-JPF
Cessna 182S	XC-HPF

Rotary Wing:

Bell 206 Jet Ranger III	XC-PFC
Bell 206 Jet Ranger III	XC-PFA
Bell 206 Jet Ranger III	XC-PFO
Bell 206 Jet Ranger III	XC-PFM
Bell 206 Jet Ranger III	XC-PFR
Bell 206 Jet Ranger III	XC-PFS
McDonnell Douglas 530F	XC-PFV
McDonnell Douglas 530F	XC-PFY

In the year 2002, the PFP purchased 4 Boeing 727-

200 from Mexicana at a cost of about 130 million pesos. These were acquired to transport over 600 personnel to any part of the country. Its believed that the sale of the above aircraft back in July helped pay for the ex-Mexicana Airlines aircraft.

National Markings:

The PFP aircraft carry Mexican civil registrations (i.e.XC-XXX) or a PFP registration with 'PFP' followed by the individual aircraft number and the XC registrations as well. While other Aircraft like the B-727 carry the legend POLICIA FEDERAL PREVENTIVA painted on the upper part of the fuselages.

Main Headquarters: Mexico City.

Know Aircraft Inventory as reported in 2002 (24 helicopters and 18 fixed-wing aircraft)

Type	Quantity	Role	Origin
Boeing 727-200	4	Transport	USA
Dassault Falcon 20	1	Transport	France
Casa CN-235-100	1	Transport	Spain
Casa CN-235-200	1	Transport	Spain
Rockwell Aerocommanders	2	Transports	USA
Gates Lear Jet 35	1	Transport	USA
Eurocopter EC-120B Colibri	5	Policing	France
Eurocopter AS350B2	1	Policing	France
Bell 206L	7?	Policing	USA
Bell 412	2	Policing	USA
Mil Mi-17	4	Transports	Ukraine?
Cessna 206	?	Transports	USA
Cessna 210	?	Transport	USA
Aerospatiale Puma	?	Transport	France
Antonov An-32B	2	Transport	Ukraine?
NA Sabreliner Model 265	1	Transport	USA
DHC-6 Twin Otter	2	Transport	Canada

Sources and References:

1. PFP website <http://www.pfp.gob.mx>
2. Reforma, 18 Julio 2003, Mexico City
3. Reforma, 7 Junio 2003, Mexico City
4. Reforma, 13 December 2002, Mexico City
5. Reforma, 23 Febrero 2001, Mexico City
6. America Vuela No.66, Dec.2000/Jan.2001
7. Air Forces, Monthly March 2001

Santiago A. Flores (SAFCH #588), 2047-A Cerrissa Ct., San Diego, CA 92154-1275, USA.

Dirreccion General de la Servicios Aereos de la Procuraduria General de la Republica

Mexican Justice Department

Santiago A. Flores

Title

Dirreccion General de Servicios Aereos (DGSA) de la Procuraduria General de la Republica. (General Directorate of the Air Service of the Mexican Justice Department)

Cessna Turbo 206	XC-CEG
Cessna 441	XC-AA71
Cessna 441	XC-AA10
Cessna 441	XC-AA73
Lockheed Jetstar	XC-SKI

Brief History:

The Procuraduria General de la Republica (PGR) is a government law-enforcement agency that plays a major role in the fight against illegal drugs. The air division, known as the DGSA, consists of the PGR Air Operations Department and the Interception Department. The former controls aerial fumigation, aerial reconnaissance of suspected drug fields, and sends information to the command centers. The officer in charge of the DGSA is former Mexican Air Force General Manuel Noble Contreras, who has under his command 163 aircraft and helicopters. Some of these have been lost in accidents and some have been shot-down by the drug cartel. Two PGR helicopters were shot-down in the state of Guerrero killing six crew members. One helicopter was a Bell 206L-4 and the other was a Bell 206L-3.

National Markings:

The aircraft of the PGR carry Mexican civil registrations (XC-xxx). The PGR also uses confiscated aircraft (i. e. XC-AA89).

Main Headquarters

Mexico City

Aircraft Inventory

As of the year 2003, the PGR has about 163 aircraft and helicopters, with a man-power of about 200 pilots and 500 mechanics. As an example, the Base at Mexico City has about 29 aircraft:

DHC Twin Otter	XC-BOS
Turbo Commander 980	XC-AA98
Turbo Commander 980	XC-AA84
Turbo Commander 840	XC-PEB
Turbo Commander 840	XC-JEH
Turbo Commander	XC-JEH
NA Sabreliner	XC-AAJ
NA Sabreliner 40	XC-AA73
NA Sabreliner 80	XC-DDA
NA Sabreliner 80	XC-AA89
NA Sabreliner 300	XC-AA49
Beech King Air 300	XC-AA49
Beech King Air 200	XC-AA38
Cessna	XC-AA82

Know aircraft types in service with the PGR:

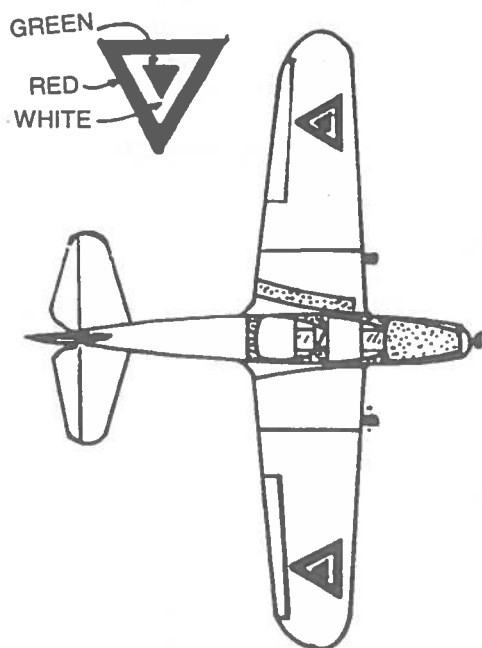
Type	Quantity	Role	Origin
Gulfstream Commander 840	?	Transport	USA
Gulfstream Commander 900	?	Transport	USA
Gulfstream Commander 980	?	Transport	USA
Beech King Air 200	?	Transport	USA
Beech King Air 300	?	Transport	USA
Bell UH-1H Huey	?	Policing	USA
Bell 206B Jet Ranger	?	Policing	USA
Bell 206L-3 Long Ranger	?	Policing	USA
Bell 206L-4 Long Ranger	24	Policing	USA
Bell 407	4	Policing	USA
Bell 412EP	1	Policing	USA
Cessna U206G	?	Policing	USA
Cessna U206U	1	Policing	USA
Cessna U206F	?	Policing	USA
Cessna T210M	?	Policing	USA
Cessna 210M Centurion II	?	Policing	USA
Cessna 441	3 +	Policing	
Cessna 550 Citation	?	Policing	USA
Fairchild Pilatus PC-6	?	Policing	USA
DHC.6 Twin Otter 300	1	Transport	Canada
Piper PA.31 Navajo	?	Policing	USA
Gates Lear Jet 35A	?	Transport	USA
Grumman G.159.Gulfstream I	1	Transport	USA
Lockheed Jetstar	?	Transport	USA
NA Sabreliner	?	Transport	USA
NA Sabreliner 40	?	Transport	USA
NA Sabreliner 80	?	Transport	USA
NA Sabreliner 100	?	Transport	USA

Sources and References:

1. El Reforma, February 8, 2001, Mexico City
2. The Civil Air Register of Mexico (TAHS)
3. Web Site: PGR <http://www.pgr.gob.mx/>
4. Avion Revue, No.20 Agosto 2001
5. El Reforma, 9 June 2003, Mexico City
6. El Reforma, 19 March 2003, Mexico City

Santiago A. Flores (SAFCH #588), 2047-A Cerrissa Ct., San Diego, CA 92154-1275, USA.

FAIRCHILD PT-19 IN MEXICAN AIR FORCE



ALUMINIUM

BLACK MAT.

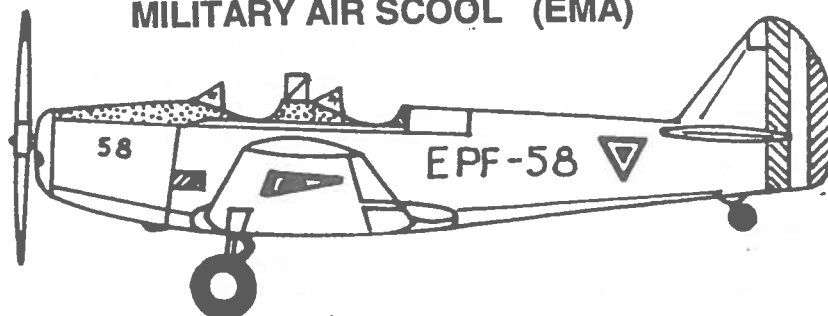
RED

GREEN

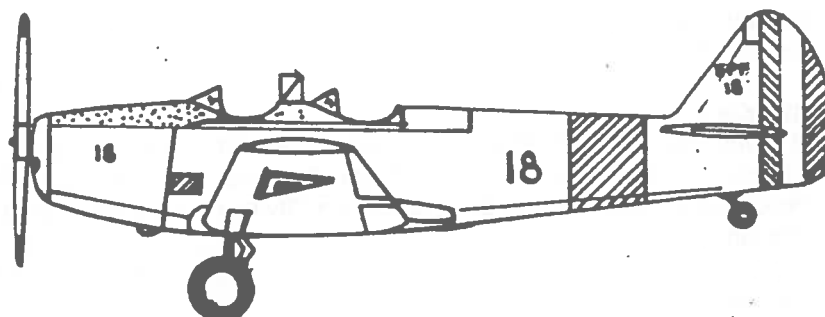
ALL CENTERS WHITE

EPF 3

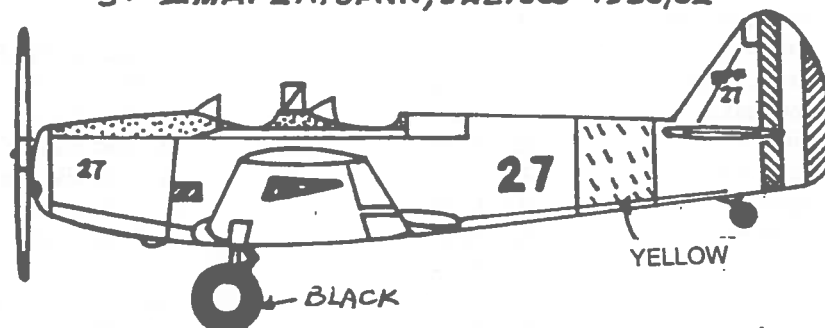
1.- ESCUELA MILITAR DE AVIACION (EMA).- 1943.
MILITARY AIR SCHOOL (EMA)



2.- E.M.A.- 1947/48 VOLADO POR ARTURO DE LA TORRE G. (+)



3.- E.M.A. ZAPOCAN, JALISCO 1950/52



4.- E.M.A. ZAPOCAN 1950-52.

RV
MARCH
1996

1.- PROPELLERS IN VARNISH WOOD WITH YELLOW OR RED TIPS

2.- LETTERS & NUMBERS IN BLACK

Fairchild PT-19 in the Mexican Air Force

Roberto Vargas C.

One of the most famous training aircraft was the Fairchild PT-19 with a fixed landing gear, tandem cockpit, and Ranger 175 hp engine. The PT-19 were received by the Mexican Air Force (MAF) as part of the US government's Lend Lease program. A total of 70 PT-19 were received by the MAF:

PT-19	6 in November 1944
PT-19A	3 in April and 3 in May 1943 14 in November 1944
PT-19B	10 in June, 13 in July, 8 in August, 6 in September, 2 in November 1943 5 in November 1944

The PH-19 were sent to the military air school at Zapopan in the Pacific-coast state of Jalisco. There they served with the Escuadron Primario de Entrenamiento (Primary Training Squadron) where they were given codes EPF-1 to EPF-70. "EPF" stands for Fairchild Primary Trainer. Many generations of Mexican military pilots received training

in these airplanes.

The Mexican Fairchild PT-19s were in service until the mid 1960s. According to MAF records, the last PT-19, EPF-20, was withdrawn from service on 22 October 1964.

The PT-19 shown in the accompanying drawings have serial numbers: EPF-3 (42-34469); EPF-58 (42-82955); EPF-18 (42-82844); and EPF-27 (42-82853).

References

1. Jane's Aircraft of the World 1939 & 1945.
2. Training Aircraft of the USAF 1925-1965, Challenge Publications.
3. US Military Aircraft since 1909, by Peter Bowers, 1971.
4. Mexican Air Force Files 1970.
5. Lend Lease Programs 1942-1945, US Government.
6. Personal files of Fairchild PT-19 in MAF service.

Roberto Vargas C. (SAFCH #386), Apartado Postal COP-081, Av. Pacifico 296, Coyoacan 04331, Mexico D.F.

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MFI-15 Saab Safari, by Michael Magnusson. Allt om Hobby, Box 90133, S-120 21 Stockholm, Sweden. E-mail: freddy.stenbom@hobby.se. Web Site: www.hobby.se.

The Saab Safari is not as famous as its little sister, the MFI-9 Biafra Baby, but it did see service with a relatively large number of air forces including Norway and Denmark in Scandinavia (but, surprisingly, not Sweden), Sierra Leone, Tanzania, and Uganda in Africa. It was also license-built in large numbers in Pakistan for the Pakistani Air Force and Army with a few going to Iran, Syria, and Oman. All told, some 407 Safaris were built for civilian and military users.

The Michael Magnusson's book on the Saab Safari tells the complete story of the Safari starting with the home-built designs of Bjorn Andreasson, going on to the little MFI-9 (license-built by Blokow as the Bo 208), and the strange decision of the Swedish Air Force to purchase the Beagle (later Scottish Aviation) Bulldog in preference to the Saab-built MFI-15. Deprived of a home market, Saab promoted the Safari outside Sweden with some success.

The Allt om Hobby book consists of 180 pages (210 mm by 240 mm) bound between sturdy hard covers. The text is entirely in Swedish, but there is a long (12 page) fluent English summary. This summary, and the many color photos, make this book easily accessible to the non-Swedish speaking reader. It's the number and quality of the photos that make this book a valuable addition to the library of any small-air-force enthusiast. I haven't tried to count the photos. There must be at least several hundred with at least half being in color. Besides the color photos, there are nine beautiful color side-view drawings (Sierra Leone 'GS-P6', Tanzania AF523 'K', the turbo-prop SE-FTT, the prototype as tested in Swedish AF marking, Oman AF '301', Pakistan AF '40' and Super Mushshak '385', Danish AF 'T-411', and Norwegian AF '843').

Chapters of particular interest to small-air-force enthusiasts are: "Sierra Leone" 4 pages including 9 photos (5 color). "Pakistan" 15 pages including 32 photos (22 color) including one of an Iranian and two of Omani Safari. "Denmark" 9 pages including 26 photos (7 color). "Zambia" 5 pages including 8 photos (4 color). "Uganda" half a page including one photo. And, "Norvege" 7 pages including 18 photos (11 color). However, this is not the end of the photos. The "Produktionslista" (24 pages) lists all individual Safaris with photos of many of them (31 Pakistan, 13 Danish, 8 Tanzania, and 4 Norwegian). Other photos are sprinkled about the text in the English Summary, a page on the recovery of a crashed Danish machine (6 color photos), and 12 close-up color photos of a Norwegian Safari. There is also a page of official marking specifications for the Norwegian AF Safaris.

Other chapters on the Safari in the small countries include one on Swedish civil Safaris in Ethiopia flying famine-relief missions. Not surprisingly, these flights were organized by Count von Rosen and many of the more dangerous missions were flown by von Rosen himself. It was during one of these missions that he was killed when Somali forces attack the camp where he was staying overnight. Another chapter tells of unsuccessful demonstration flights to South-East Asia and Latin America. The later chapter has 3 color photos of Dominican Republic Mustangs.

Allt om Hobby's book on the Saab Safari is an marvelous book with outstanding photographic coverage. It belongs in the library of every aviation enthusiast whose interests extend beyond WWII. Review copy provided by Allt om Hobby.

Two kits exist for the Safari, both from Broplan: MS-64 Saab MFI-15 Safari and MS-65 Saab MFI-17 Supporter/Mushshak. Both are short-run injection-molded kits, and are identical except the "MFI-17" kit includes under-wing armament.

Neither kit contains decals, but the instruction sheet for the MFI-15 has 3-view drawings for two Norwegian aircraft (one camouflaged Olive Green over Grey and the other in overall Yellow) and the "MFI-17" kit has 3-view drawings for one Danish and one Pakistani aircraft.

Strangely enough, the Swedish book makes no mention of a "MFI-17" and the only mention of a "Supporter" refers to a demonstration machine. All Pakistani aircraft, both those built in Sweden and those assembled or license-built in Pakistan, have construction numbers beginning with '15'. Also, the book refers to the Pakistani-built aircraft as "Mushshak" not "Mushak". No matter what you call them, the Broplan kits allow the modeler to build the little MFI-15 in the markings of of countries.

Lockheed L-12/212: Historie, Camouflage en Kentekens, by Gerard Casius. Dutch Profile #1. Dutch Decals, Kerkstraat 2, 2471 AP Zwammerdam, Netherlands. E-Mail: info@dutchdecals.demon.nl. Web Site: www.info@dutchdecals.demon.nl.

This is the first of what I hope will be a long series of "Dutch Profiles". The series is produced by Luc Boerman, the proprietor of Dutch Decal and a long-time friend of the SAFCH. It seems strange that the premiere issue is devoted to an unglamorous and somewhat obscure twin-engine transport/trainer/bomber, the Lockheed L-12/212. I'm afraid this choice will unnecessarily reduce the initial acceptance of this very promising series. Hopefully, this review will somewhat alleviate this problem.

The L-12 is an attractive little twin-engine monoplane transport/trainer and the L-212 is its militarized version with a dorsal gun turret and a bomb release mechanism. Both versions had an active career in the Dutch East Indies, India, USA, the Caribbean, Holland, and Indonesia. During this time, it carried a variety of color schemes that

should appeal to the modeler. [A 1/72-scale kit of the L-12 is available from Special Hobby. Conversion to the L-212 by the addition of the dorsal turret should be fairly easy. Decals for the Dutch aircraft are available from Dutch Decals as 72051, 72052, and 72055. See their Web Site for details of the markings provided with each set.]

The author of Dutch Profile #1 is Gerard Casius another long-time friend of the SAFCH. His name on a publication guarantees an impeccably-researched and well-written work. Unfortunately, the text is entirely in Dutch. A 2-page insert provides a short English summary of the text and full translation of the photo captions. However, this merely served to whet the appetite of this reader. A fuller translation, even at the cost of a higher price, would greatly enhance the sales potential outside Holland.

This Profile consists of 24 A-4 size pages printed on glossy paper. There are 47 well-reproduce photos and 17 color side-view drawings. While serving in the Dutch East Indies, the L-212 was in natural metal with Dutch roundels. As war approached, the roundels were replaced by orange triangles and the upper surfaces were painted in 'Oudblad' (a Dark Olive Drab equivalent to FS34088). The lower surfaces were left unpainted. The description of the activities of the L-212 during the Japanese invasion occupies several pages in the text, but only a short paragraph in the English summary. One L-212 escaped to India and two L-12 in transit were diverted to India. These ended up in RAF service carrying SEAC roundels. Five other aircraft in transit were diverted to Australia. One of these was sent to England where it was used by Prince Bernhard carrying RAF roundels. Ten went to Dutch training unit in Jackson, Mississippi, where they first carried USAAF insignia with the inscription "Netherlands Indies". Later the USAAF insignia was replaced by the Dutch flag insignia. Camouflage was 'Oudblad' and 'Jongblad' (Medium Green FS34092) upper surfaces with aluminum lower surfaces. Four of these later served in the Caribbean (one was registered 'PJ-AKC').

After the end of the war, several L-12/212 returned to the East Indies; first carrying the Dutch flag insignia and later Dutch roundels. After Indonesia obtained its independence, these aircraft were turned over to the Indonesian air arm. (Unfortunately, the Profile does not have any photos or drawings of these aircraft in Indonesian markings.) Also after the war, several were sent to Holland where they carried Dutch roundels with either a natural metal or the 'Oudblad' finish. All these variations, and more, are illustrated by color side-view drawings. One nice feature I've never seen before is the use of the camouflage colors 'Oudblad' and 'Jongblad' on the cover of the profile.

The Dutch Profile on the Lockheed L-12/212 is an excellent publication that is highly recommended to everyone interested in the small air forces. Don't let the brief English summary discourage you. The photos and drawings speak an international language. The price is 9.95 euro plus postage at cost. (The review copy had 3.00 euro postage on it.)

The next Dutch Profile, the P-51D/K Mustang, is also written by Gerald Casius, and should be very popular.

Review copy graciously provided by Luc Boerman of Dutch Decals.

[Ed: Another reference on the Dutch L-12/212 is Hooftman's "Van Glenn Martins en Mustangs". It has 8 photos and 4 pages of text (in Dutch) and a list of serials.]

Les Autogires LeO C.30 & C.301, by Jacques Moulin. Collection Profiles Avion N° 5 (2003). A-4 size. 256 pages. Hardcover. ISBN 2-91-4017-15-4. LELA Presse, 29 rue Paul Bert, 62230 Outreau, France. Web Site: www.avionsbateaux.com. E-Mail lela.presse@wanadoo.fr.

I confess that I am an autogiro freak. I've been one for many years; ever since I converted an Airfix 1/72-scale kit of the Avro 504 into a Cierva C.19. You can imagine my joy when the Azur kit of the LeO C.30 came out. I bought a couple, but delayed starting work on one while I try to decide which small air force's marking I should use. That problem has been made much more difficult by the publication of this fantastic book.

As the title declares, the main subject of this book is the LeO-built derivatives that served in France. However there is a long chapter, written by Michel Ledet, that covers the use of the C.30 by other countries. But, more on this after we've survived the rest of the book.

The book is printed in the usual excellent LELA Presse format. A-4 size with 256 pages on high-quality glossy paper sturdily bound between durable hard covers. The text is entirely in French, but there are hundreds and hundreds of well-reproduced photos (there's 89 in the chapter on non-French C.30 alone), excellent scale drawings, and beautiful color side-view drawings.

Some idea of the nature and depth of coverage can be obtained from a listing of the chapter titles: (1) Un peu d'histoire et de technique (12 pages). (2) Les premiers autogires militaires français (12 pages). (3) Les C.30A utilisés dans d'autres forces aériennes (45 pages). (4) Les Loire et Olivier C.30 militaires français (31 pages). (5) Les unités utilisatrices (21 pages). (6) Les écoles (15 pages). (7) L'Armée de l'Air (9 pages). (8) Période de l'occupation (2 pages). (9) Les autogires de la Marine nationale (17 pages). (10) Les dérivés (29 pages). (11) Les appareils spéciaux et les

prototypes divers (13 pages). (12) Marques et camouflage (4 pages). (14) Conclusions et bilans (2 pages). (15) Carrieres individuelles des appareils (5 pages). Annexes, documents et témoignages (27 pages). Bibliographie (one page). Plans (6 pages). Ecorches du LeO C.30 (4 pages). Profils couleur et plans (9 pages).

Details of the illustrative material that recommends the book to the reader untutored in the French language are:

Scale drawings ("Plans"): Side-view drawings of the Avro C.30P and C.30A; a 4-view drawings of the LeO C.30, a 2-view drawing of the LeO C.301, a side-view drawing of the LeO C.301 for l'Aéronautique Navale, a side-view drawing of the LeO C.302, and side-view drawings of the radically-different C.34 and C.34 1°.

Cut-a-way drawings ("Ecorches"): Two-page cut-a-way drawings of both the LeO C.30 and LeO C.301. Color side-view drawings ("Profils couleur et plans"): 27 color side-view drawings [Spain (2), Czechoslovakia, Sweden, Danish, Great Britain (3), France (19)].

Cover: Front cover has a color painting of an LeO C.30 hovering above a French staff car and a Sumatran tank. [Ed: A great idea for a diorama, but I think I'd settle for the autogiro on the ground, but the ingenious modeler should be able to have the autogiro suspended with its rotors turning.] The back cover has color photos of 3 museum a/c (RAF, French, and Argentine).

Let us now turn our attention to the chapter on non-French C.30. This 45-page chapter has 89 photos (not counting the small inset photos). Countries covered are: Allemagne (1 photo), Argentine (3 photos), Autriche (14 photos), Belgique (2 photos), Brésil, Chine, Danemark (7 photos), Espagne (10 photos), Grande-Bretagne (13 photos), Inde, Italie (4 photos), Lituanie (6 photos), Norvège (2 photos), Pays-Bas (4 photos), Pologne (2 photos), Suède (3 photos), Suisse (5 photos), Tchécoslovaquie (5 photos), URSS (2 photos), and Yougoslavie (6 photos). A 3-page table list all non-LeO C.30 by type, construction number, registration, and users.

If you're still leery of this book because of the French text, take heart. Michel Ledet has graciously given permission to reprint in its entirety the chapter on non-French C.30. With this translation in hand, the book will transcend all language barriers.

"Les Autogires LeO C.30 & C.301" is enthusiastically recommended to all autogiro freaks (if there are any others out there) and to everyone no matter what their primary interest.

Review copy graciously provided by Michel Ledet of LELA Presse.

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[Editor's note: Two new magazines have recently joined our membership: Air Magazine from France and Flieger Revue from Germany. To introduce these magazines to our readers, a detailed review follows for the first issues to hand. These reviews will cover all articles and departments irrespective of their small-air-force interest. This will allow the reader to decide whether or not to write for a subscription. As future issues are received, they will be reviewed in our Abstract section with

the usual emphasis on the small-air-force content.]

Air Magazine, TMA, 75 rue Claude Decaen, 75012 Paris, France. Six issues a year. 35 euros in France, 41 euros in Europe, and 50 euros for the rest of the world. Payment by Visa, Eurocard, Mastercard. E-mail: airmagazine@wanadoo.fr.

On the basis of this one issue, I rate Air Magazine as one of the best magazines in the world for the small-air-force enthusiast; on a par with Insignia

from England and Avions from France. Its printed on high-quality glossy paper with excellent reproduction of the photos and vivid color photos and art work. The scale drawings are numerous and excellently rendered. The text, unfortunately, is entirely in French.

#16 Novembre 2003 (64 pages).

"Archive Photos" 2 pages with one photo and a 3-view (top-, bottom-, and starboard side-views) of a Spanish He 59B '52-2' with red/yellow roundels

in four positions on the wings, black disc fuselage roundel, St. Andrew's cross on the rudder, and the Ace of Clubs insignia of AS/88 on the vertical fin.

"Les Levasseur PL 15" 15 pages on the French biplane torpedo bomber including 10 photos, a two-page 1/72-scale 4-view drawing, a 3-view color drawing of white '6' of 7B2, and 5 color side-view drawings.

"Arkhangelsky Ar-2" 3 pages with 3 side-view line drawings of variants, a color side-view drawing of red '2', and two pages of a very detailed 1/72-scale 4-view drawing with cross sections.

"Le F4U-5 Corsair en Argentine" 17 pages including 16 b&w and 7 color photos and a table listing all Argentine Corsairs with their Argentine number, codes, BuAer number, dates of arrival and disposal, and history. The superb art work consists of 3 color side-view drawings: a 3-view color drawing of F4U-5NL '3-A-201' in overall dark sea blue, and a 3-view color drawings of F4U-5 '3-C-22' with light gray upper surfaces and white undersurfaces. All these aircraft are most attractive with their white (or black) anchor insignia in four positions on the wings, blue/white/blue stripes on the rudder and elevators, and that unique naval insignia on the fuselage behind the codes.

"Les Potez 63" 19 pages including 26 photos (one in color), 8 color side-view drawings, a 3-view color drawing of #75 'X7-02' in an usual scheme of light gray overall with olive green from the outer side of the nacelles back to just behind the rear gunner's position, and a color 3-view drawing of #72 'X6-44' with 3-tone camouflage on the upper surfaces and blue gray on the undersurfaces, and 6 pages of detailed scale drawings.

Four pages of kit and book reviews (29 kits and 3 book, each with a color illustration of the box top or the book cover.

If you can afford to subscribe to only one magazine, I suggest you trash your SAFO subscription and subscribe to Air Magazine.

Flieger Revue, Verlag Fliegerrevue, Oranien-damm 48, D-13489 Berlin, Germany. 12 issues per year; 4.8 euro single issue; US\$4.50. E-Mail: extra@fliegerrevue.de. Web Site: www.fliegerrevue.de.

This is a conventional aviation magazine on the order of Italy's JP-4 with heavy emphasis on the aviation industry and commercial and sports aviation.

11/03 (82 pages) "Neuer Stern am (motor-)Seglerhimmel" 2 pages on a motor-sailplane including 4 photos. "Quo vadis Dieselmotoren?" (Hey, that's Latin) 2 pages including 2 photos. "Tribwerkssbau mit langer Tradition" 2 pages including 4 photos of jet engines. "Der Sabre-Story" 4 pages including 12 photos (one Luftwaffe & one Canadian). "Begehrte Beuteflugzeuge" 4 pages including 8 photos [unearthing the Iraqi MiG-25, museum North Korean MiG-15, museum Chinese MiG-17, Egyptian Su-20, East German MiG-23, Russian(?) MiG-29 & USAF(?) An-32]. The subject of this article has me totally stumped. "Scherlast-Hubschrauber" one page including 3 photos CH-47 with wings(?). "100 Jahre Motorflug" 13 pages with numerous very small photos of milestone aircraft, photos of 'warbirds', and a nice 3-view color drawing of the Wright Flyer. "Relaunch eines Oldtimers" and "Big Brother für die Bundeswehr"

7 pages on the launch site in French Guyana and a reconnaissance satellite. I can't tell if these articles are connected. "Eine Legende für Berlin" one page including 2 photos of Swiss Bu 131 Jungmann 'A-47'. "Kampfflugzeuge und Jet-Trainer der NVA" 4 pages. This is the most useful article for SAFOers in this issue with 5 photos and 5 color side-view drawings of former East German aircraft in Luftwaffe markings (MiG-21bis, Aero L-39ZO, MiG-23ML, SU-20, & Su-22M-4). The modeling section is fairly extensive with review of the Panda's 1/35-scale HU-1D (7 photos) and Heller's 1/72-scale Breguet Atlantic (14 photos). The "Spotlight" page has 4 photos, 3 of commercial jets and one of a Bulgarian AF An-30. One photo and small a 3-view drawing of the F-117A and Jodel DR.1050 Ambassador.

Flieger Revue is not recommended for the dyed-in-the-wool small-air-force enthusiast, but may be of interest to the reader with a more catholic taste.

Flieger Revue Extra, Verlag Fliegerrevue, Oranien-damm 48, D-13489 Berlin, Germany. 2 issues per year. 14 euro. E-Mail: extra@fliegerrevue.de. Web Site: www.fliegerrevue.de. Flieger Revue Extra, Verlag Fliegerrevue, Oranien-damm 48, D-13489 Berlin, Germany. 2 issues per year. 14 euro. E-Mail: extra@fliegerrevue.de. Web Site: www.fliegerrevue.de.

While the monthly Flieger Revue is of marginal interest to the small-air-force enthusiast, the quarterly Flieger Revue Extra is, as they say, a horse of a different color. The Flieger Revue Extra consists of 132 large (230 mm by 300 mm) pages printed on high-quality paper. The photo reproduction is excellent and the color drawings are superb. The text is entirely in German. The issue at hand is full of interesting articles. The one on the Austrian Air Force at the time of the Anschluss is one of the finest articles I've seen of this subject, or any other subject for that matter. But, let's look at the other articles in this issue, saving the best for last.

"Volkspolizei-Luft: Der Mythos um den Vorgänger der NAV-Luftstreitkräfte" 24 pages on the early history (1950-56) of the "People's Police" aviation in East Germany. Included are 61 photos; about half b&w and half in that strange color we used to expect in publications from behind the "Iron Curtain". On the other hand, the color side-view drawings are superb: La-9, Jak-18, An-2, MiG-15bis, Zlin Z-126, Mraz M1D Sokol, and Jak-11. The only national insignia carried on all these aircraft are Soviet Red Star. There are numerous "organizational" charts, two maps showing the location of airfields, and color drawings of uniforms. Altogether, a fascinating look at a very obscure period of aviation history.

"Drohnen Waffen der Zukunft" 20 pages on current and planned UAVs (Unmanned Aerial Vehicles). There are 48 photos and table listing the specifications of 22 UAVs each with a small photo. "Die Convair Story" 20 pages on the military aircraft that carried the Convair name: XA-41, B-32, XP-81, B-36, YB-60, R3Y, XB-46, XF-92, F-102, F-106, B-58, and XF2Y. (This would make a fantastic model "collection" to bring to your next "nationals".) There are 45 photos divided about equally between black-and-white and color. Incidentally, there is a side-bar explaining the physics seen in the familiar photographs of supersonic

aircraft (e.g. an F-106) with a "condensation cone" emanating from about halfway down the fuselage. I've heard a lot of competent physicists misinterpret this phenomenon; Flieger Revue gets it correct.

"Aufstieg und Niedergang des Luftschiffbaus Schutte-Lanz" 16 pages on the airships of Schutte-Lanz including 14 photos, 3 color side-view drawings (SL.I, SL.II, SL 20), and a table of specifications for the individual airships.

"Die legendäre Tu-104" 14 pages including 17 photos, 3 color side-view drawings, a color 3-view drawing, and a table listing the individual Tu-104 and their histories.

Now, for the piece d resistance. "Unternehmen 'Otto': Die Beteiligung der deutschen Luftwaffe an der Besetzung Österreichs" 34 pages. On 12 March 1938, the Germans moved into The Republic of Austria and made it a part of the Third Reich. The overwhelming force that the Nazis used in this operation is brought home by 28 photos showing Luftwaffe Ju 52, Do 17, He 51, He 45, and Bf 109 packed wingtip-to-wingtip on Austrian airfields on 12 March. Not much the small Austrian Air Force could have done against this show of force.

The remaining 65 photos show Austrian aircraft either in Austrian markings or over-painted in German markings. There are two maps, one showing the disposition of the Austrian Air Force on 11 March and the other showing the progress of the German occupation. There are two color 3-view drawings: an Austrian Air Force Ju 52 in a marvelous 3-color upper surface camouflage scheme (a must for any modeler having a spare Ju 52 kit in the loft) and an ex-Austrian AF Ca 133 in Luftwaffe markings. The color side-view drawings of Austrian aircraft are: Ca 100, Fw 58, Ju 52, CR 32, Avro 626, Fw 56, CR 20, Bf 108, Lampich NL 22, Fw 44, and Pintsch Schwalbe II. Color side-view drawings of ex-Austrian aircraft in Luftwaffe markings are: Go 145, CR 32, and CR 20. There is one table listing the aircraft types in service with the Austrian AF, their acquisition date, and number obtained. Another, much longer table, lists the individual aircraft by serial number with remarks about their history.

Listing all the photographs of Austrian aircraft would be a time consuming job, so let me list the aircraft in service with the Austrian AF on 12 March 1938 with the almost-certainty that at least one photo of the type appears somewhere in this article: Avro 262; Cierva C.30; Breda Ba.28; Caproni Ca.100 & Ca.133; de Havilland DH.60GIII Moth, DH.60M Moth, DH.80A Puss Moth, DH 82A Tiger, & DH.84A Dragon; DFS Habicht; Falke R Va; Fiat A.120, A.120R, CR.20bip, CR.20bis, CR.30mono, CR.30bip, & CR.32; Focke Wulf Fw 44J Stieglitz, Fw 56A Stosser, & Fw 58 Weihe; Gotha Go 145; Hopfner HS 8/29, HS 9/32, HS 10/35, HS 13/34; Junkers F 13, A 35b, & Ju 53/3mg3e; Lampich NL 22; Messerschmitt Bf 108 Taifun; Phoenix L2c; Pintsch Schwalbe II; Raab RK 26s Tigerschwalbe; Romeo Ro.37bis, and Udet U-12 Flamingo.

This issue of Flieger Revue Extra is an absolute must for anyone interested in the pre-WWII Austrian Air Force.

Shcherbakov Shcje-2, 1/72-scale vacuform kit with decals and injection-molded parts. Broplan MS-87. Janusz Brozek, ul. Pilotow 10G/33, 80-480 Gdansk, Poland.

This kit is another big surprise from our friend in Poland. The Shcherbakov Shche-2 (Try says that three time fast!) was a not-quite-ugly two-motor, high-wing transport with fixed landing gear and twin tails. Certainly not an aircraft that we'll ever see kitted by a major company.

The kit is molded to the usual Broplan quality on three sheets (220 mm by 1150 mm) of white styrene of just-acceptable thickness. The molding is sharp with finely-engraved panel lines and subtle representation of the fabric control surfaces. I particularly like the inclusion of two wing spars to provide strength and ensure the proper dihedral. Two small 70 mm by 80 mm) injection-molded sprues provide all of the small parts including spatted or naked wheels. The cockpit interior is Spartan but utilitarian (as was the original) with floor, bulkhead, instrument panel, two seats and two control columns. There is no interior detail for the passenger/cargo compartment, but none of this can be seen through the two (on a side) little windows. The braced undercarriage will be a challenge to build in correct alignment. The 5-cylinder engines are a bit simplified. They are useable if cowed. However, if you decide to build the aircraft with the engines exposed, which is a much more interesting alternative, the engine will either need a lot of work or you can replace them with a pair of suitable 5-cylinder engines from AeroClub. The vacuformed cockpit windows are quite acceptable. The instruction sheet, consisting of three sides, is another Broplan gem. One page identifies the parts and included the usual self-explanatory exploded construction diagram. The second provides side-view drawings of three Soviet aircraft, two in dark olive-green and brownish-green camouflage over pale blue-grey, and the third in overall light grey.

However, I suspect that most SAFCH modelers will opt for one of the Polish machines shown on the third sheet. These aircraft are in the in the same camouflage colors as the Soviet aircraft, but the patterns differ appreciably. The drawings show the port- and starboard-sides of both aircraft and a top view of one. Both of these aircraft have uncowed engine, which is the reason for my concern about the detailing on the engines.

The decals for the Soviet machines consist of only white outlined stars of indifferent register, but red stars are easy to obtain. The decals for the Polish aircraft are beautifully done in perfect register and contain 8 Polish chess boards and white and yellow aircraft numbers.

The Shche-2 is another good vacuform kit from Broplan that will make into an unusual and interesting model. Highly recommended to the experienced vacuform builder.

Review kit graciously provided by Janusz Brozek of Broplan.

[Ed: In a review of the Broplan kit of the Umbra T.18 published in the October 2003 issue of SAFO, the use of the large 'AUT' decals on the prototype aircraft was questioned. Janusz replies: "I agree that the T.18 'before modification' did not carry this insignia. This insignia was carried by the aircraft 'after modification', and since this will by my next kit, I prepared one version of the decal sheet for both kits."]

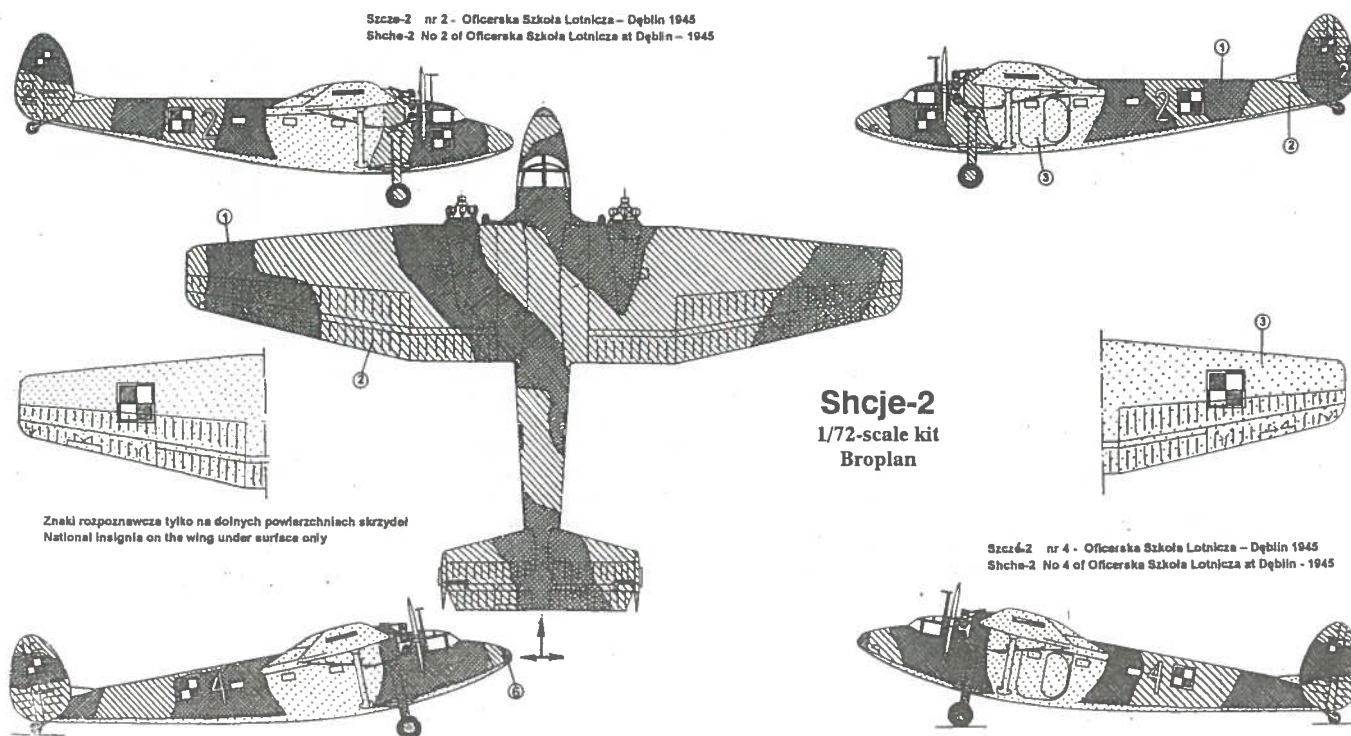
Aerinautica Unbra T.18B, 1/72-scale kit with decals and injection-molded parts. Broplan MS-87. Janusz Brozek, ul. Pilotow 10G/33, 80-480 Gdansk, Poland.

As promised by Janusz, Broplan has released a kit of the more pugnacious-looking version of the Umbra T.18. The kit is almost indistinguishable from the kit of the prototype; the main difference is the cowl with its numerous rocker-arm blisters.

Molded on two sheets (225 mm by 60 mm) of medium-thickness white styrene the parts are sharply delineated with engraved panel lines and subdued representation of the fabric-covered control surfaces. Construction is straightforward with a full-span lower surface of the wing to ensure the correct dihedral. Cockpit detail is sparse, but sufficient for this scale (floorboard, seat, control column, instrument panel, and shelf behind the pilot). Extra detail can be added if desired, but it should not be necessary. A small sprue of (injection-molded light-gray styrene provides most of small parts including engine, propeller, cowl front, wheels, and landing gear. These parts have a little flash; not a serious problem but just enough to be annoying. The landing gear doors are too thick and best used as a pattern to cut thinner parts from thin styrene sheet. The vacuform canopy is clear and has subtle frames.

The excellent instruction sheet provides the usual clear exploded construction diagram and a 1/72-scale 3-view diagram illustrating the camouflage pattern of Giallo Mimetico (Yellow FS33454) upper surfaces with splotches of Verde Mimetico (Green FS34102) and Marrone Mimetico (Brown FS10076) and Grigio Minetico (Grey FS36293) undersurfaces. A well-printed small (70 mm by 35 mm) decal sheet provides the rudder stripes (with royal crest), fasces symbols, "AUT.18" inscriptions, and 'AU' insignia for four wing positions.

The Aeronautica Umbra T.18 is another fine kit of an unusual aircraft from Broplan. It is recommended for any modeler building a collection of WWII aircraft and is simple enough for anyone who has built a few vacuform kits. While few modelers will want to build both versions of the T.18, the pair would make a eye catching display. Review kit graciously provided by Janusz Brozek of Broplan.



Bush War Hinds (Mi-24/25/35): Collection I. 1/72-scale decals. Linden Hill Decals, LHD72006a. Linden Hill Ltd., PO Box 543, Cruzers, NY 10521-0543. E-Mail: contact@lindenhillimports.com. Web Site: www.lindenhillimports.com. US\$14.99 (also available in 1/48 scale as LDH-48006 at US\$16.99).

This decal set is a real feast for the modeler of the aircraft of the small air forces. Included on one sheet of decals (200 mm by 130 mm) are all the national insignia and markings necessary to make sixteen Mi-24 (or its variants) for twelve different air forces. Only the most compulsive-obsessive modelers would contemplate building sixteen Mi-24, but the rest of us will have a terrible time deciding which one or two schemes to use.

I'll begin this review with a short mention of the markings provided for the not-so-small air forces of the Soviet Union and Russia. Two of these schemes are for Mi-24 during the Soviet withdraw from Afghanistan and two for Russian Mi-24 in action above Chechnya.

The small-air-force subjects are: (1) two overall-white Ukrainian Mi-24 in UN markings for service in Eastern Slavonia 1996. (2) An Afghanistan Mi-24 in pre-1979 markings consisting of a red disc with yellow Arabic inscription and a Mi-35 of the 'Northern Alliance' with the black/green/red triangle insignia. Both these machines are in the "standard Mi-35 export schemes". (3) The Croatian Air Force is represented by a Mi-24 carrying both the Croatian checkerboard insignia and the dark blue roundel with two red squares. " Camouflage scheme is mostly the old standard Soviet one with some areas touched up with both dark and light gray." (4) The color scheme on the Macedonian Mi-24 "... appears to be an updated version of the old standard Soviet one. The upper surface dark green in particular is much darker than usual and the lower surface light blue more vibrant." The only nationality markings carried are small Macedonian flags on the nose and rudder. (5) The Czechs are represented by a two-tone gray tiger-striped Mi-24 with low-vis national markings. (6) The Bulgarian AF is represented by two Hinds: '103' "... carries a variant of the old Soviet scheme, with the addition of a lighter olive green to the two-tone upper pattern" and '122' is in a 'lizard' pattern of green and brown over pale blue/gray applied during overhaul in Hungary.

Moving on to Africa: (7) A Libyan Mi-24 that was captured in Chad after a Libyan-back rebellion was defeated with French and US assistance. The machine is in "... a heavily weathered standard export camouflage scheme". (8) Nigeria is represented by a Mi-35 obtained in 2000 and in a "'smart" paint scheme matching the colors used by Nigeria's other tactical aircraft. The camouflage consists of two tones of green and tan upper surfaces with a blue gray under sides". Finally, (9) a Sudanese Mi-35 photographed in Russia in 2001 pending delivery. "The camouflage scheme of this Mi-35P is the Soviet 'desert' scheme".

A second smaller decals sheet (95 mm by 95 mm) included in this set "features full Russian stenciling for the Mi-24 taken from Russian military technical manuals". Frequent quotes from the instruction sheet were deliberately used to emphasize the high quality of the research that has gone into the design of these decals.

The decals are well printed in perfect register, although a few of the smaller details, such as the Sudanese national insignia, are printed in separate parts to prevent any misalignment. The twelve-page instruction booklet is a thing of joy by itself. Each

aircraft is illustrated by full-color port- and starboard-view drawings and extensive informative captions. Two pages are devoted to the placement of the stenciling. This booklet alone is almost worth the price of admission.

Linden Hill's decal set for the Mi-24 Hind is an absolute must for any modeler of the aircraft of the smaller countries who is not adverse to build a helicopter or two (or maybe more). Purchase these decals from your local hobby store or directly from Linden Hill, but consider buying your Zvezda kit of the Mi-24 from the SAFCH Sales Service.

Review decals graciously provided by Guy Holroyd
of Linden Hill Ltd.

Heraldic Bears (Tu-95MS): Special Edition. 1/72-scale decals. Linden Hill Decals, LHDS7201. Linden Hill Ltd., PO Box 543, Crugers, NY 10521-0543. E-Mail: contact@lindenhillimports.com. Web Site: www.lindenhillimports.com. US\$11.99.

"This, the first in a new series of special markings sheets from Linden Hills, features two colorful Russian Tu-95s - 'City of Ryazan' and 'City of Saratov' ... and three alternative sets of Ukrainian Air Force markings to correct the Trumpeter kit decals. This set also contains a bonus decal option for a Ukrainian AF Tu-160."

The decal sheet measures 205 mm by 130 mm and contains all the marking necessary to finish either of the two Russian Bears and to correct the Trumpeter Ukrainian Bear and the A-Model Tu-160. National insignia are included as well as individual aircraft insignia, aircraft numbers, and Cyrillic inscriptions.

The instruction sheet is rather minimal with just scrap-view drawings of 'Red 19' and 'Red 20' in Russian markings. Markings for the Ukrainian Tu-95 and Tu-160 include four yellow/blue roundels and two different styles of the 'trident' insignia. There are no drawings of this aircraft. Apparently, the text is considered to be sufficient when used in conjunction with the instructions in the Trumpeter and A-Model kits.

Review decals graciously provided by Guy Holroyd of Linden Hill Ltd.

Strizhi MiG-29/29UB: 2003 Scheme., 1/72-scale decals. Linden Hill Decals, LHD72008a. Linden Hill Ltd., PO Box 543, Crugers, NY 10521-0543. E-Mail: contact@lindenhillimports.com. Web Site: www.lindenhillimports.com. US\$14.99 (also available in 1/48 scale as LHD-48008 at US\$18.99). These decals enable the modeler to recreate the colorful MiG-29s of the Russian Air Force's 'Swifts' aerobatics team. The decals consist of three sheets: 130 mm by 205 mm, 95 mm by 130 mm; and 95 mm by 35 mm. The decals are well printed with the complicated blue/red/silver patterns in perfect register. These decals are to be applied over a model pre-painted white and red. Four red stars are provided along with small insignia for the belly and wing tanks. These decals allow the modeler to finish one aircraft, but you get to choose any member of the team since numbers are provided for all six MiGs; '03' and '06' are single-seaters and the rest are two-seaters.

The 4-page instruction sheet provides full-color drawings of top and bottom, a port-side view of '02' and port- and starboard-side views of '06' as well as drawings of the colors applied to the belly and wing tanks and the APU launchers and pylons. Also included are two color photos, full painting instructions, and historical background.

Review decals graciously provided by Guy Holroyd of Linden Hill Ltd.

Normandie-Niemen Yaks, 1/48-scale decals. Iliad Design 48004. Iliad Design, 334 Sunnyside Ave., Ottawa, ON K1S 0S1, Canada. E-Mail: info@iliad-design.com. Web Site: www.iliad-design.com. US\$9.00 (C\$12.75).

Besides their Color Charts (See a review of their **Polish Aircraft Colour Chart** in the 'Miscellaneous' section of this issue of SAFO), Iliad Design produces a series of 1/48-scale decals. The review sample on hand provides the markings for five French-flown Yaks: (1) Yak-1b '42' of Albert Durand; (2) Yak-9 '14' of Marcel Lefevre; (3) Yak-3 '6' of Marcel Albert; (4) Yak-9T '60' of Rene Challe; and (5) Yak-9T of Pierre Pouyade. The decal sheet (130 mm by 205 mm) contains all the red stars, aircraft numbers, and special markings to finish all five aircraft. Each aircraft has special markings: the Yak-1b has a shark mount and a small French roundel; the Yak-9 a white arrow with the head of 'Le Pere Megloire'; the Yak-3 a yellow arrow; the Yak-9T the 'furie' French squadron emblem; and the second Yak-9T the crest of the original Chasse No.3 'Normandie'.

The decals are well done in perfect register, although some of the smaller items, such as the 'kill' markings are done with the Luftwaffe crosses separate from their white background to avoid even the slightest misalignment.

The instruction sheet is a gem with the five aircraft illustrated by color drawings of the port side. Black-and-white tone drawings are provided for the starboard sides and top-views. FS color equivalents are given for all colors.

The Iliad Design decals for the Normandie-Niemen aircraft can be recommended to any modeler wanting to add a couple of 1/48-scale Yaks to their collection.

Other 1/48-scale decals available from Iliad Design are: Pre-war Hurricanes ID4801; 7/JG 53 'cartoon aircraft ID4802; and Pre-war Spitfires ID4803. These cost US\$9.00 (C\$12.75) each plus \$2.50 for postage on total order.

Review decals graciously provided by Bob Migliardi of Iliad Design.

F/RF-84G Thunderjet, 1/72-scale decals. Hi-Decal Line 72-047. HDL Hi-Decal, Kilinskiego 22, 40-062 Katowice, Poland.

HDL continues its series of decals of US aircraft in foreign service with two sets for the Republic Thunderjet. The first of this pair provides the making for four aircraft: (1) Danish Air Force RF-84G 'KA-C' with Dark Green and Dark Sea Grey topsides and PRU Blue undersurfaces. (2) Danish Air Forces RF-84G 'KA-D' with polish aluminum upper surfaces and matt aluminum undersurfaces except for the starboard wing which came from a camouflage aircraft. (3) Yugoslav Air Force RF-84G in an unusual camouflage scheme of Dark Sea Grey with Dark Green splotches on the upper surfaces and PRU Blue undersurfaces. (4) Imperial Iranian Air Forces F-84G with polished aluminum upper surfaces and matt aluminum lower surfaces. The two Danish aircraft carry their cameras in Fletcher wingtip tanks. (The instructions suggest these be purchased from Model Art or modified from "any T-33 kit".) The other two aircraft carry standard F-84G tip tanks.

The decals (130 mm by 90 mm) are to the usual high HDL standard; beautifully printed in perfect register with dense vibrant colors. Markings are

provided for all national insignia, code numbers, individual insignia, and all special markings. The instruction sheet is, as usual, a model of clarity. Each aircraft is illustrated with side-view drawings (port and starboard views for the camouflaged aircraft and port for the aluminum painted aircraft). Complete top views are provided for each aircraft as well as scrap views illustrating the placement of the markings on the undersides. All colors are given as FS equivalents as well as Humbrol and Model Master paint numbers. An additional sheet has 1/72-scale drawings of the Fletcher wingtip tanks and the Yugoslav and NATO fuselage camera arrangement.

The HDL decals for the RF-84G are highly recommended. The Danish aircraft with one wing in polished aluminum and the other camouflaged will be an eye catcher on any display table.

These decals are also available in 1/48 scale. See the SAFCH Sales Service for both sets.

F-84G Thunderjet, 1/72-scale decals. Hi-Decal Line 72-049. HDL Hi-Decal, Kilinskię 22, 40-062 Katowice, Poland.

This second set of HDL decals for the F-84G contains markings for only two aircraft, but what strange color schemes.

One is a French *Armée de l'Aire* F-84G '3-HP' in an overall polished aluminum finish with some very unusual embellishments. First, the entire rear fuselage and most of the tail unit are Arctic Red. There are wide chord-wise black bands at mid-span above and below each wing. The area outboard of these black bands is Arctic red both above and below. The tip tanks are polished aluminum with a yellow and black flash. Most unusual are the French roundels superimposed over a USAF insignia on the port upper and starboard lower wing tips. The other wing tips have the French roundel

superimposed over a black letter 'F'.

The other Thunderjet is 'FS-373' of the Royal Hellenic Air Force. This one is a little more subdued. The overall finish is polished aluminum and matt aluminum with Arctic red rear fuselage and tail feathers. The embellishments include yellow-and-black checked tip tanks and rudder and a classical Greek adornment on the rear of the fuselage.

The decals consist of two sheets. One in the usual HDL size of 130 mm by 90 mm and a small one (90 mm by 65 mm). These are to the usual high HDL standard; beautifully printed in perfect register with dense vibrant colors. Markings are provided for national insignia, code numbers, individual insignia, and all special markings.

The instruction sheet is, as usual for HDL, a model of clarity. Each aircraft is illustrated with a port side-view drawing. Complete top and bottom views are provided. All colors are given as FS equivalents as well as Humbrol and Model Master paint numbers. This HDL decal set for the F-84G is recommended.

These decals are also available in 1/48 scale. See the SAFCH Sales Service for both sets.

Markierungen an NVA-Flugzeugen, 1/32, 1/48, 1/72-scale decals. TOM Modellbau, Am Brink 24, 17098 Friedland, Germany. E-Mail: tom-modellbau-online.de. Web Site: <http://tom.deu.net>.

It may come as a surprise to many modelers that, during its short period of existence (1956-1990), the East German Air Forces (NVA) carried an amazing variety of national insignia. However, most of differences are quite subtle. TOM Modellbau has come out with decal sheets in all the popular scales that provide all of these variations.

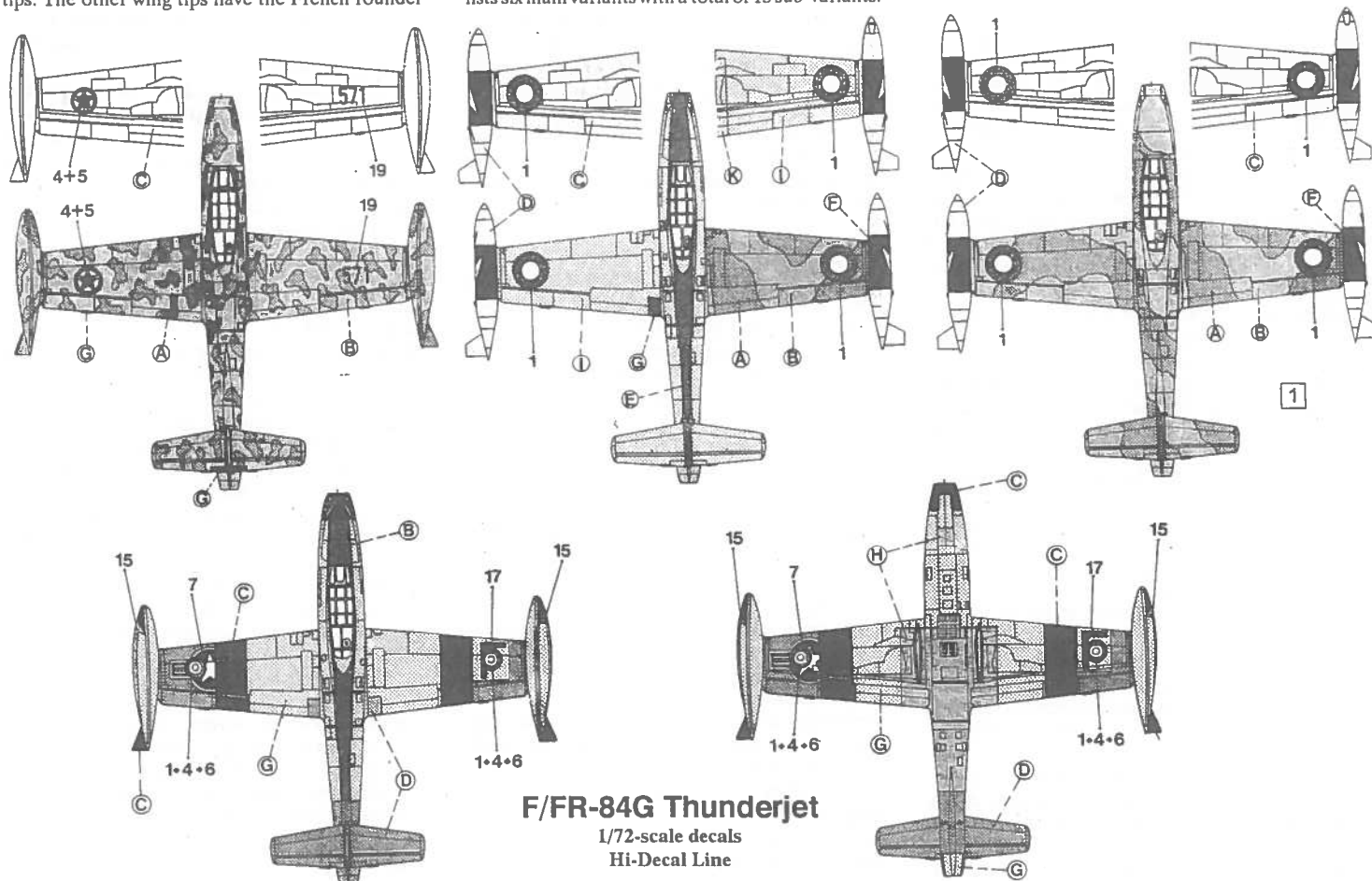
The instruction sheet accompanying these decals lists six main variants with a total of 13 sub-variants.

These begin with the simple bars in black/red/yellow and go on to add a wreathed figure on the center red bar that changed from year to year. The instruction sheet gives the years of application of each variant as well as the type of aircraft that carried the variant. For example, variants A1 to A4 were in use in 1956 with A1 applied to MiG-15bis and MiG-15UTI, A2 to MiG-15bis, A3 to MiG-15bis, and A4 to MiG-15bis and MiG-17. Variants F1 and F1s were in use in 1985 with F1 applied to Su-22M4, Su-22M3k, MiG-29A and F1s to Su-22M4 Su-22M3k, and F2 in 1988 to MiG-21UB. Each style is insignia is denoted on the decal sheet with the corresponding number.

In each scale, the decals consist not only of at least 72 national insignia, but include several sets of aircraft number from '1' to '0' in two or three different styles, and sundry smaller markings. The numbers vary depending on the scale of the decals. The 1/72-scale decal sheet measures 155 mm by 110 mm. The 1/48-scale decals come in two sheets each 155 mm by 110 mm, and the 1/32-scale decals come in two sheets each 180 mm by 260 mm. The printing is excellent with perfect registration.

Unfortunately, there are no drawings of aircraft in the instructions, so the modeler will have to rely on other references to use these decals. Available from TOM Modellbau is a four-volume series "Flugzeuge der DDR". Volume I: 'Typenbuch bis 1962'; Volume II: 'Typenbuch bis 1972'; Volume III: 'Typenbuch bis 1990'; Volume IV: 'Fotos und Dokumente 1952 bis 1990'. Another reference, this one available from the SAFCH Sales Service, is Wilfried Kopenhagen's "Flugzeuge und Hubschrauber der NVA von 1971 bis zur Gegenwart" published in 1988.

Review decals graciously provided by TOM Modellbau.



Other color charts available from Iliad Design are: ICC001 RAF Day Fighters; ICC002 Luftwaffe Early & Mid-war Fighters; ICC003 USAAF & USN WW II Training Colours; and ICC004 Fleet Air Arm. Cost is US\$7.00 (C\$10.00) each. Shipping is \$2.50 on your total order.

One copy of this informative booklet is available to a SAFO reader for the cost of postage and packing: \$2.00 in USA and \$4.00 elsewhere.

"I have a photo of N-7025 (shown on their illustration on pp 46) and, unlike most of the other Navy aircraft, there is no "dash" in the serial between the "N" and the 7025. I'm not sure that the windows in the fuselage are properly represented, either."

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